A Clinical Lecture

ON

PANCREATITIS, WITH ESPECIAL REFERENCE TO CHRONIC PANCREATITIS,

ITS SIMULATION OF CANCER OF THE PANCREAS AND ITS TREATMENT BY OPERATION, WITH ILLUSTRATIVE CASES.

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BY A. W. MAYO ROBSON, F.R.C.S. ENG.,

SENIOR SURGEON TO THE GENERAL INFIRMARY AT LEEDS; EMERITUS PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE OF THE VICTORIA UNIVERSITY; AND HONORARY PRESIDENT OF THE SURGICAL SECTION OF THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

GENTLEMEN,—To be asked to lecture before an audience of post-graduates must always be considered an honour, but when the request comes from such a distinguished body as the council of the Medical Graduates' College and Polyclinic one can only feel that to the honour is added the pleasure of compliance. Fortunately, too, I had a subject which I wanted an opportunity of bringing forward, and I hope that I may have the benefit of your criticisms and the advantage of help from your experience in a class of cases which has hitherto, scarcely, if at all, been generally recognised, but which I believe to be not very uncommon.

Before proceeding to consider the subject of chronic pancreatitis specially I think that it will tend to the elucidation of my subject if I make a few remarks on pancreatitis generally.

PANCREATITIS.

When it is borne in mind that the pancreas is a racemose gland with its various channels opening into a duct which opens along with the common bile-duct into the second part of the duodenum—a channel usually containing septic organisms, and frequently liable to catarrh and other disorders—it is not surprising that inflammation should frequently occur in it. Just as in the liver we may have acute and chronic catarrh of the ducts, infective and suppurative cholangitis, and inflammation of the inter-lobular tissue ending in cirrhosis, so in inflammation of the pancreas we may have any one or more of those affections, though as yet we have not learnt to recognise acute or chronic catarrh of the pancreatic ducts apart from jaundice, or infective and suppurative inflammation of the ducts apart from abscess of the pancreas itself. As our means of diagnosis become more perfect I venture to predict that these affections will be more frequently recognised and awarded their proper place in medicine.

I have seen cases of discomfort with some swelling at the epigastrium associated with dyspepsia and ague-like attacks but without jaundice, or with only very slight jaundice, which I thought might be explained on the hypothesis of infective inflammation of the pancreatic duct, the cases having cleared up under general treatment. I have also seen the same symptoms associated with more pain, irregular fever, more marked swelling and tenderness over the pancreas and discharge of pus by the bowel from time to time, but without any collection sufficiently large to form a distinct abscess. In a case of this kind seen lately the question of operation was raised, but in the absence of distinct abscess of the pancreas it was not pressed and the patient is recovering. I think that this may have been an affection of the pancreas analogous to suppurative cholangitis.

Causes.—The essential and immediate cause of the various forms of pancreatitis is bacterial infection, this having been positively proved in a number of cases both clinically in the human subject and experimentally in the lower animals, but as in inflammatory affections of the liver and bile-ducts we look for extrinsic causes, so in pancreatic diseases we find biliary and pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus, or duodenum, and zymotic diseases such as typhoid fever and influenza, to be determining factors, though in some cases pancreatitis has come on suddenly in persons in robust health and the determining cause has been beyond recognition. Though the infection may arise from the blood as in pyæmia, or by direct extension from the neighbouring tissues as in ulcer of the stomach, yet the most usual channel is through the duct, as in the cases related below arising from gall-stones in the common duct, and from gastro-duodenal catarrh.

Symptoms.—It seems to me more convenient to consider pancreatitis clinically under the headings of (1) acute, (2) sub-acute, and (3) chronic, which does not interfere with the pathological classification of acute pancreatitis into hæmorrhagic, suppurative, and gangrenous. The symptoms of pancreatitis are very variable and differ in the separate forms. It is a disease without pathognomonic signs and a correct diagnosis is usually only arrived at by a careful study of the history, mode of onset, and combination of symptoms.

1.—ACUTE PANCREATITIS.

This is usually ushered in by a sudden pain in the superior abdominal region, accompanied with faintness or collapse and followed sooner or later by vomiting. It is almost constantly accompanied by constipation, so that it is quite usual for these cases to be mistaken for intestinal obstruction at first. The obstruction, however, is not absolute, flatus passes, and a large enema may secure an evacuation; if the patient survive for several days diarrhœa may supervene. The pain may be so severe as to produce syncope or collapse, and though the pain does not quite pass away it has a tendency to be paroxysmal and to be increased by movement; it is associated with well-marked tenderness just above the umbilicus or between it and the ensiform cartilage. The pain is soon followed by distension in the superior abdominal region which may become general and usually does so in the later stages, and by vomiting, first of food then of bile. The vomiting may be severe and each seizure may aggravate the pain, but at times vomiting may not be a prominent symptom. Slight icterus from associated catarrh of the bile-ducts is usually present and deepens the longer the patient survives. The aspect is anxious and the face is pinched, resembling the facies of peritonitis, which in fact may be present. The pulse, which is rapid and small, is a better guide than the temperature, which may be normal, subnormal, irregular, or high. Delirium comes on in the later stages. The distension, pain, and tenderness prevent an exact examination of the pancreas, which would otherwise be found enlarged. Death usually supervenes from the second to the fifth day from collapse, though in the less acute cases life may be more prolonged. Acute infective pancreatitis thus takes on the form of acute peritonitis starting in the superior abdominal region. If life be prolonged the case comes under the category of sub-acute pancreatitis, and in that case the onset is usually less grave, though often equally sudden.

2.—SUB-ACUTE PANCREATITIS.

This may have a sudden onset with acute pain and vomiting associated with constipation, but the collapse is not so marked and may even be absent; the upper abdominal region does not become so rapidly swollen, and vomiting is less severe and less prolonged. At other times the onset is more gradual, though the symptoms may be similar. Tenderness over the pancreas is well marked and on account of the tympanites being less than in the acute form it may be possible to feel the swollen gland, especially under an anæsthetic. Constipation gives place to diarrhœa, and pus or blood may be noticed in the stools which have a very fœtid odour. The pulse will be less rapid and less thready than in the acute form, and the temperature is more irregular. I have seen the temperature reaching 104° and 105°F., and yet the pulse to vary between 90 and 110. The morning temperature may be normal and the evening temperature high for several days or even weeks. Rigors may occur and may be repeated from time to time. The pain occurs in paroxysms, but there is also a constant dull pain at the epigastrium. The patient may lose the more urgent symptoms and appear to be really improving, but the loss of flesh and feebleness continue and relapses usually occur, leaving the patient each time more and more feeble until death supervenes from asthenia. Albuminuria is pretty constant, but glycosuria is rarely present and lipuria is an uncommon symptom.

If an abscess develop the pus may form a tumour projecting in the superior abdominal region and forming a tender swelling behind the stomach, or perhaps coming to

the surface above or below that viscus; or it may burrow into either loin forming a perirenal abscess, or passing under the diaphragm, it may form a subphrenic abscess. Occasionally the pus may follow the psoas muscle and form a subperitoneal abscess in the iliac region or even passing over the brim of the pelvis it may collect in the left broad ligament. I have seen these several terminations in cases either under my own care or under the care of colleagues and I have operated four times for abscess of the pancreas. Sometimes the abscess bursts into the stomach and is vomited, or into the bowel and is voided per anum, after which diarrhœa may continue and pus may be seen from time to time as any fresh collection forms and bursts. I have seen both of these methods of evacuation of the pus. With the evacuation of the abscess relief occurs for a time and the temperature improves, but relapses usually occur and a mild form of septicæmia persists with a hectic temperature. Death is the usual termination, but recovery may occur after a tedious and prolonged illness, as in the case now related.

CASE 1.—On March 17th, 1900, I was asked by Dr. J. Glen of Middlesbrough, to see a female patient, aged 26 years, when I obtained the following history. The patient was first attended the last week of December, 1899. Her symptoms then indicated a chronic form of dyspepsia with recurrent attacks of diarrhœa, the latter associated with indurated fæces. No relief from treatment resulted. The main symptoms at this time were general tympanitic condition of abdomen with tenderness over the sigmoid flexure, no acceleration of pulse, and no rise of temperature. About the second week in January, 1900, the diarrhœa still persisting, a good deal of fresh blood was present with each evacuation—these giving one the idea of dysentery. Then retching and vomiting set in, but this condition was probably set up by the free exhibition of powder of ipecacuanha. This condition continued more or less for upwards of a fortnight when improvement set in. The tympanites disappeared, the tenderness of the left groin became less, there was less sickness, and a desire for food returned. The diarrhœa abated, there being only one or two evacuations in the 24 hours, the motions being formed. The improvement continued till the second week in February. The patient at this time having gained flesh, was daily gaining strength, and was able to sit up in her dressing-gown for a time each day. A relapse took place, accompanied with much pain in the epigastric region, constant sickness, return of diarrhœa and blood in the stools, and rapid emaciation, and quick pulse and rise of temperature. This condition persisted in spite of all treatment. There had never been blood in the vomited matter except once, when there was a slight streak as if it might have come from the pharynx during the act of severe retching. Since the relapse there has developed a dull area with tenderness over the pancreas, but the degree of tenderness varies from day to day. At one time there was retention of urine, afterwards incontinence; no albumin or sugar was present. Hæmorrhage was very profuse, the blood being gruel-like and mixed with stools which were very offensive. Dr. Glen showed me the report of the Clinical Research Association of an examination of the fæces which contained some blood and pus but no cells suggestive of growth and no tubercle bacilli. When I saw her the patient was looking very ill and emaciated, with feeble, quick pulse; there was tenderness in the superior abdominal region with rigid recti, but not along the course of the colon either on the right or the left side. Examination under an anæsthetic revealed a swelling in the situation of the pancreas, but no fluctuation could be made out. As there was resonance in front of it, it was clearly behind the stomach, and from its position it was above the colon. Before the anæsthetic the patient said there was very great tenderness on pressure over the swelling in the epigastrium. The rectal examination was negative, except that there was ballooning. I made a diagnosis of suppurative pancreatitis, the abscess having discharged into the bowel. I advised five grains of salol, two grains of quinine, and half a grain of opium, to be given thrice daily, the patient to be watched with a view to the testing of her temperature, pulse, &c. Plasmon and somatose dissolved in broth, tea, &c., were ordered as the patient could not take milk. The question of operation was raised and dismissed to be further considered in about a week or 10 days, as she was at the time too feeble to bear even an exploratory incision. From this time improvement steadily occurred and when I saw her again in a fortnight she was picking up distinctly, though there was still well-marked tenderness over the pancreas. In June she had gained nearly a stone and a half in weight, looked much better, and could take her food well; there was however, still a little rigidity of the recti and some tenderness, though no distinct tumour of the pancreas. The diarrhœa had disappeared and there was neither pus nor blood in the motions.

3.—CHRONIC PANCREATITIS.

Chronic pancreatitis, at first hypertrophic but later cirrhotic, is usually considered to be a very rare disease, but experience would lead me to believe it to be a much more common affection than the acute or sub-acute forms, and I think that some cases put down as malignant disease of the head of the pancreas and terminating fatally may be cases of chronic interstitial pancreatitis. My reason for this belief is shown in the cases related below, selected out of 17 cases on which I have operated. My experience has resulted from my having operated on a large number of cases of jaundice depending on obstruction to the common bile-duct; the obstructive jaundice, wasting, paroxysmal attacks of pain and ague-like seizures having given rise to the suspicion of gall-stones, and the absence of relief by medical treatment having rendered surgical treatment necessary. My first case of this nature was a revelation to me, as the patient was extremely ill before the operation which was, in fact, undertaken too late; and as there was the opportunity of a post-mortem examination the absence of malignant disease or of other cause than the chronic pancreatitis and associated jaundice to account for the death was directly proved.

This form of pancreatitis is quite distinct from the acute or sub-acute form, though I think it is probable that some of the latter cases end in chronic interstitial pancreatitis. It probably usually arises by extension of the inflammation from a chronic catarrh of the pancreatic duct extending from a gastro-duodenal catarrh, though it is frequently associated with biliary or pancreatic lithiasis, or with gastric, pyloric, or duodenal ulcer. Its course varies. The onset may be quite gradual and painless, or may be ushered in by a severe pain at the epigastrium followed by jaundice resembling a gall-stone attack and associated with nausea and vomiting, and perhaps followed by a feeling of chilliness or even a rigor. The pain, however, is not over the gall-bladder and does not pass round the right side to the subscapular region, but is central and passes backwards to the midscapular region or round the left side, thus resembling stomach rather than gall-bladder pain. The tender spot is usually an inch above the umbilicus in the middle line and not over the gall-bladder as in cholelithiasis. When once jaundice has come on it tends to deepen with each attack until it becomes continuous and chronic. The paroxysms of pain may be repeated more or less frequently or there may be no paroxysmal pain, merely a dull ache deeply seated, burning and boring in character. A swelling of the pancreas may sometimes be made out, but as the recti are rigid because of the pain and tenderness in the epigastrium, it can usually only be discovered under anæsthesia.

Loss of flesh and strength are well-marked symptoms in all cases. Vomiting may in some cases be absent, but there are usually a want of appetite and flatulent dyspepsia, and always a sense of fulness and weight at the epigastrium for some time after food. Jaundice is not necessarily present at first, though it is usually present at some stage of the disease and is often well marked, but, as was pointed out some years ago by Dr. Walker of Peterborough, the stools are white even when the pancreatic fluid alone is absent from the intestine. Diarrhœa is often present and the stools are offensive and may be fatty. Albuminuria is common and glycosuria may occur, but the latter is probably only present in cases where the whole gland is affected. Fever may be absent, but in some cases the temperature runs a hectic course, always rising in the evening and falling in the morning. This is especially the case where ague-like paroxysms occur. These varieties probably depend on the character of the infection in the pancreatic and bile-ducts and also on the amount of obstruction present. Where jaundice is present the pulse may be abnormally slow, and even when the temperature is raised the pulse-rate is not much elevated, though the character of the pulse may be poor. In the later stages, especially if the disease be associated with jaundice, hæmorrhages from the nose and the bowel, vomiting of blood and petechiæ in the skin show marked blood degeneration and death ensues from increasing weakness.

In the more chronic cases, especially when there is contraction of the head of the pancreas, there will be found a tumour formed by the distended gall-bladder, just as there is in cancer of the head of the pancreas, for which disease chronic interstitial pancreatitis is then apt to be mistaken and a hopeless prognosis given. In such cases the gall-bladder will be found to be distended with mucus, the bile which first filled it having become gradually absorbed, the backward pressure having prevented fresh bile from entering the ducts. This may occur so gradually as to be painless and then the gall-bladder is free from tenderness, which is seldom the case when the distension is due to gall-stones.

Diagnosis.—The diagnosis of chronic interstitial pancreatitis has to be made from gall-stones in the common duct, cancer of the head of the pancreas, cancer of the liver and bile-ducts, and chronic catarrh of the bile-ducts. From gall-stones the diagnosis is of no great importance, since the two diseases are often associated and the treatment is the same; nevertheless, it may be possible to make a diagnosis of gall-stones by the sequence of long antecedent history of spasms without jaundice, then by a severe attack of pain followed by jaundice, and after a time by recurring pains with increase of the icterus associated with ague-like attacks. The absence of tumour is more common in gall-stones than in chronic pancreatitis, though in the latter the gall-bladder may be found contracted at times. Although in pancreatitis there is usually less pain, at times the paroxysmal attacks may be equally as severe as in gall-stone seizures. The tenderness in the latter case, however, will be over the gall-bladder, and in the former at the middle line where the swollen gland can sometimes be felt, especially if the examination is made under anæsthesia; moreover, the radiating pain in gall-stones is towards the right and in pancreatitis towards the left or to the mid-scapular region. In cancer of the head of the pancreas the onset is usually gradual and painless, and the disease generally occurs later in life, usually after 40 years of age. It is preceded by general failure of health, and when the jaundice supervenes it becomes absolute and unvarying and is nearly always associated with a tumour of the gall-bladder, which generally attains a large size and shows no tenderness on manipulation. The liver enlarges from the biliary stasis, but there are no nodules to be felt. In some cases of cancer of the head of the pancreas a hard nodular tumour may be found on the inner side of the distended gall-bladder. Extremely rapid loss of weight and strength with increasing anæmia, but without ague-like seizures, is very characteristic, and it is common for there to be an absence of fever with a slow feeble pulse and later ascites with œdema of the lower limbs. Cancer of the common bile-duct is rare, but when present may resemble, and is usually associated with, gall-stones. In cancer of the liver, the irregular enlargement, the nodular feel, the rapid deterioration of health, the less intense jaundice, and the absence of fever and paroxysmal pains will usually enable a diagnosis to be made. Chronic catarrh of the bile-ducts is usually associated with an absence of symptoms, except jaundice and some loss of flesh. The entire absence of pain and fever with the relief by treatment usually give rise to little difficulty in establishing a diagnosis. In many cases a diagnosis will only be made by an exploratory operation, then the enlargement of the pancreas can be readily felt, or if the tumour be small the head of the pancreas may be found to be hard and perhaps nodular like scirrhus. If ascites be present the tumour will probably be malignant. The lymphatic glands in the lesser omentum may be enlarged in both cancer and chronic pancreatitis, but in the latter they will be discrete and soft, in the former hard and perhaps infiltrating. Adhesions are usually associated with chronic pancreatitis, but are generally absent in cancer.

Pathological appearances.—Whenever there is obstruction of the common bile-duct by gall-stones, with associated infective cholangitis, the pancreatic duct may be subjected to backward pressure and to the same infective dangers as the liver; hence the association of infective and suppurative inflammation of the pancreatic duct is quite common. If this irritative process is kept up for some time the substance of the pancreas participates in the inflammatory process and an interstitial pancreatitis results. There may be uniform swelling of the gland or only of certain lobules. Effusion into the inter-lobular and into the peri-glandular cellular tissues is associated with proliferation and detachment of the epithelium lining the acini and the tubes, and there is a crowding together of the cells, with an accumulation of inflammatory fluid containing round cells and blood corpuscles in and around the affected parts of the gland, leading to tension. This simple pancreatitis is known by examining the parts of the pancreas less severely affected when death has occurred from abscess or other disease affecting a limited portion of the gland, and I have also seen it in cases of common bile-duct obstruction where the pancreatitis only proved a secondary and not the fatal disease. In the greater number, if not in all cases of obstruction of the common duct where the obstruction is close to the duodenum the pancreatic duct participates in the infective process which usually follows, and when death occurs it will be found that pus can usually be squeezed from the duct of Wirsung; this has been observed independently by Dr. A. R. Ferguson of Glasgow. If resolution takes place complete recovery may occur or the interstitial effusion may organise and lead to irregular contraction of the tissues and possibly to cirrhosis or chronic interstitial pancreatitis that may either end in diabetes if the whole gland be affected or may lead to pressure on, or distortion of, the common bile-duct and so to chronic jaundice, thus simulating cancer of the head of the pancreas. If, on the other hand, the inflammation be too acute for resolution to occur it may pass on to suppuration which may be general or localised. In all cases of chronic pancreatitis on which I have operated I have found numerous and firm adhesions around the duodenum, pylorus, and hepatic flexure of the colon, all of which have been adherent to the liver and gall-bladder, and on several occasions occlusion of the foramen of Winslow has been found. Where there has not been associated cholelithiasis, the gall-bladder will usually be found distended, and if the obstruction of the common duct be complete it may be very large and filled with mucus. The lymphatic glands usually participate in the inflammatory process and may suppurate. If the patient survive there may be abscesses in the liver, pressure on, or thrombosis of, the splenic vein, enlargement of the spleen, pressure on, or thrombosis of, the portal vein with ascites, or even obstruction to the flow of blood through the vena cava and œdema of the legs.

Prognosis.—The disease may last for months or even years, and it is not improbable that some of the cases of jaundice persisting for several years and called chronic catarrh of the bile-ducts may be of this nature. If glycosuria supervene it makes the outlook more grave. Increasing weakness and the supervention of hæmorrhagic tendencies usually show the near approach of a fatal termination. Under surgical treatment the prognosis is very favourable, as out of 17 cases on which I have operated 16 have recovered, and in nearly every case complete restoration of health has occurred.

TREATMENT OF PANCREATITIS.

In acute infective pancreatitis treatment practically resolves itself into that of peritonitis commencing in the superior abdominal region. The pain at the outset is so acute as to necessitate the administration of morphia, and the collapse will probably demand stimulants, which on account of the associated vomiting may have to be given by enema. In the early stages the symptoms are so indefinite that the indications for surgical treatment are not clear enough to warrant operation, and until the collapse has passed off no surgical procedure would be justifiable. The simulation of intestinal obstruction will probably lead to efforts to secure an evacuation of the bowels and relief to the distension. In the only case of this kind that I have seen the distension of the upper part of the abdomen was so great and the patient was so obese that any exploration from the front was out of the question, even when the diagnosis was established. A posterior exploration was discussed and would have been made but for the speedy death of the patient. Just as in a perforative or gangrenous appendicitis an early evacuation of the septic matter is necessary to recovery, so in this equally lethal affection an early exploration in the left costo-vertebral angle is demanded, and as it can be performed with very little difficulty I should certainly perform it early in any case I might see in the future, when I should evacuate the septic material and adopt free drainage.

The sub-acute form of pancreatitis is much more amenable to treatment, as the indications are so much more definite and there is more time for careful consideration, and though it has usually only been attacked when an abscess has formed and is manifestly making its way to the surface, yet there is no reason why in some cases surgical treatment should not be adopted at an earlier stage. As in the acute condition, morphia may be required to relieve the

paroxysmal pain and stimulants and food by the rectum to relieve the collapse and support the strength. The distension, if present, may also demand attention and may have to be relieved by lavage of the stomach and turpentine enemata or by the administration of calomel by the mouth. Calomel is also of benefit by acting as an intestinal antiseptic, for which purpose it may be given in small repeated doses or in doses of five grains, followed by a saline aperient. As soon as the constipation is relieved diarrhœa is apt to supervene, when salol and bismuth with small doses of opium may be given. If surgical treatment is decided on, a median incision above the umbilicus will enable the operator to palpate the pancreas and locate any incipient collection of pus, which if practicable should be evacuated by a posterior incision in the left or right costo-vertebral angle, or failing that possibility the collection of pus may be aspirated and the cavity opened and packed with gauze, which may be brought forward through a large rubber drainage-tube which will in the course of from 24 to 48 hours establish a track isolated from the general peritoneal cavity. In one case I was able to do this, but the operation was undertaken at too late a stage to be successful, and though the patient lived two or three days afterwards the evacuation of the pus seemed to make very little difference to the general septic condition previously existing and death occurred from increasing debility. The method adopted had, however, been successful from the point of view of drainage, and the track of the gauze and tube was isolated from the general peritoneal cavity. If a definite abscess form and approach the surface in front or in either loin the treatment will be that of incision and drainage as in the case of any other abdominal abscess. Of four cases on which I have operated two recovered completely, one recovered from the operation but died a few weeks later from debility. The fourth case is the one just referred to. The strength must be maintained by careful feeding and the judicious administration of stimulants. It will be necessary to keep a sharp look-out for further collections of pus and for subphrenic abscess or empyema which on recognition will need treatment.

The course and treatment of chronic interstitial pancreatitis is exemplified in the cases related below. Doubtless, in some of these cases the manipulation of the indurated tumour has detached calculi impacted in the gut, but in others the relief of tension as the result of draining the bile-ducts by cholecystotomy or cholecyst-enterostomy has indirectly drained the pancreatic duct and thus has led to a subsidence of the pancreatitis, then to an opening of the common duct by the relief of the tension, and so to a cure of the patient. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis would make me hesitate to decline operation in any case of distended gall-bladder where the patient was in a condition to bear it, or even in any case of chronic jaundice without distension of the gall-bladder where the general health was deteriorating, as though it should be recognised that if the disease be really malignant very little good will be done and life may even be shortened or prolonged for a short time, yet if the disease prove to be chronic pancreatitis a real and permanent cure may be brought about. If a calculus be felt imbedded in the head of the pancreas or impacted in the pancreatic duct it may be reached through the second part of the duodenum by laying open the papilla and exploring the duct or by dividing the peritoneum passing between the duodenum and hepatic flexure of the colon and then cutting through the overlying pancreas on the concretion. If the papilla be incised it does not require suture and in the cases in which I have explored the ducts by the duodenal route there has been no hæmorrhage; the anterior duodenal opening requires closing by a mucous and a serous suture. Drainage of the right kidney pouch for from 24 hours to 48 hours is advisable, though not always necessary, and this is best done by a stab wound at the most dependent part.

For attacking the head of the pancreas or the pancreatic duct a vertical incision should be made through the right rectus and not in the middle line. In all cases of deep jaundice I prescribe chloride of calcium in 20-grain doses thrice daily for 24 hours or 48 hours before operation and give it in an enema form for 24 hours afterwards in 60-grain doses thrice daily.

CASE 2. *Chronic pancreatitis; cholecystotomy; cure.*—A man, aged 45 years, was sent to me on Oct. 25th, 1898, by Dr. J. B. Berry of Keighley. The patient was very deeply jaundiced and told me that he had lost a stone in weight since the onset of his illness five weeks before. He gave the history of having had attacks of pain referred to the region of the gall-bladder nine years previously, but they were unaccompanied by jaundice and passed off after prolonged treatment. From that time onward he had been free from attacks of pain up to the onset of the present illness five weeks before, when he was suddenly seized with severe pain at the pit of the stomach and became jaundiced. The pain had recurred daily and had been so severe as to necessitate his taking morphia. Dr. Berry noticed a swelling in the region of the gall-bladder a fortnight after the onset of his illness, and there was all along well-marked tenderness at the epigastrium with gradually increasing enlargement of the liver. The patient's general health rapidly failed and the loss of flesh was well marked. When I saw him he looked pinched and ill, he was very deeply jaundiced, and the urine was loaded with lithates but contained neither albumin nor sugar. There were well-marked tenderness at the epigastrium and a smooth tumour, which was not very tender, in the gall-bladder region; the liver was enlarged and the edge was smooth and could easily be felt an inch below the costal margin. A diagnosis of gall-stones in the common duct was made, and the patient was admitted into the Leeds General Infirmary. The operation was performed on Sept. 27th, 1898. On opening the abdomen numerous adhesions between the gall-bladder and liver and the pylorus, colon, omentum, and duodenum were found. The gall-bladder was slightly distended, but no gall-stones were felt either in it or in the cystic or common duct. There was, however, a hard nodular swelling of the head of the pancreas which at the time was thought to be malignant. In order to give relief the adhesions were detached and the gall-bladder was drained by cholecystotomy. On Oct. 28th I wrote to Dr. Berry telling him that I feared that the disease of the pancreas might be malignant but that there was a possibility of its being a chronic pancreatitis. On Nov. 5th I wrote a letter to this effect: "I am pleased to be able to tell you that your patient has improved very much and the jaundice has nearly disappeared. I hope, therefore, that the tumour of the head of the pancreas may have been inflammatory and not malignant. At the time of operation it occurred to me that it was not quite hard enough for a malignant tumour, but under the circumstances I felt it my duty to give you my suspicions." From that time onwards recovery was uninterrupted and the patient left the hospital with the wound closed within the month. In December, 1899, the patient, at the kind suggestion of Dr. Berry, called to report himself to me. He looked perfectly healthy and had gained over a stone in weight since his return home. He had neither pain nor tenderness and he said that he felt as well as if he had never ailed anything. The scar was firm, the liver was normal, and there was not the slightest tenderness in the epigastrium or in the gall-bladder region.

CASE 3. *Chronic pancreatitis; cholecystotomy; cure.*—The patient was a man, aged 45 years, residing at Pickering. On March 19th, 1898, he was brought to see me by Mr. G. V. Robertson of Pickering, the history being that he had been well up to 12 months before, when he began to have painful attacks at the pit of the stomach ending in vomiting, but not followed by jaundice until an attack on Jan. 1st, 1898, since which time he had been deeply and continuously jaundiced. He had also from that time onwards had ague-like attacks, and two days before seeing me he had had within 24 hours three of these seizures, each accompanied by pain. Within a twelvemonth he had lost 2st. 8lb. in weight. On examining him there was some swelling in the gall-bladder region but no tenderness. The liver was a little enlarged but the margins felt smooth. There was decided tenderness in the middle line just above the umbilicus and on deep pressure the pain was considerable and an indefinite fulness could be felt. The diagnosis of gall-stones in the common duct was made, and an operation was advised. The patient was operated on at a surgical home on March 30th when the gall-bladder was found to be slightly distended and surrounded by adhesions to the pylorus, duodenum, colon, and omentum. No gall-stones could be discovered, but there was a well-marked swelling of the head and the first two inches of the pancreas which though nodular and irregular was not very hard. This extended further to the right than normal so as to cover in the lower end of the common bile-duct. Cholecystotomy was performed. Within 24 hours of the

operation nearly four pints of very offensive bile were discharged through the tube. A specimen was examined by the Clinical Research Association and their report was as follows: "The bile contains both staphylococci and streptococci, but no bacillus coli communis could be found either under the microscope or in the culture." Fearing that the disease might be malignant and the patient being so extremely weak and ill I gave a poor prognosis, but in a few days I was able to write: "[The patient] is progressing very satisfactorily, though he is still profoundly weak. Bile has appeared in the motions so that the obstruction is evidently overcome. The bowels have been moved naturally and the patient is less deeply jaundiced and looking better generally." On April 5th I was able to report that he was taking food well and that bile was passing freely in the motions He had had no recurrence of the shivering attacks. The drainage was continued for 14 days. On the 20th the patient returned home. The urine was then free from bile and the motions were assuming a natural colour; he was taking food well, gaining flesh, and looking better generally. I still, however, gave a guarded prognosis, though I said that I hoped that the tumour would prove to be inflammatory and not malignant. From that time onward his progress to recovery was extremely rapid. A report I had of his condition from Mr. Robertson a few months later said that he was perfectly well in every respect and that he had fully regained his lost weight. I heard of this patient two years after his operation and he was still in perfectly good health.

CASE 4. *Chronic pancreatitis associated with gall-stones; cholecystotomy; cure.*—On Oct. 20th, 1899, I was asked by Dr. T. C. Squance of Sunderland to see a female patient, aged 51 years, who had been suffering for three years from attacks resembling those of gall-stones, each attack being followed by jaundice. During the past 14 weeks the seizures had been more frequent and severe and jaundice had never quite cleared away before another attack came. She had lost flesh and strength considerably and had vomited from time to time between the attacks. Her digestion was much impaired and there was a want of appetite. She had had no rigors, and had only slight fever at the time of each seizure. The urine contained abundant lithates and a slight trace of albumin, but no sugar. On examination the abdomen showed no manifest enlargement of the liver or gall-bladder, but some tenderness over the gall-bladder and at the epigastrium where there was an indefinite sense of fulness. An operation was performed on the 23rd, when after detaching numerous adhesions 15 gall-stones were removed from the cystic and common ducts, but as a large nodular mass was occupying the head of the pancreas and partly obstructing the common duct it was deemed advisable to perform cholecyst-enterostomy so as to make a permanent opening between the fundus of the gall-bladder and the duodenum. The tumour gave the impression both to myself, to Dr. F. Macrae, and to Dr. Squance that it was malignant. Recovery was, however, uninterrupted, the button was passed on the tenth day, the wound healed by first intention, and the patient immediately began to put on flesh. She returned home within the month and has since been perfectly well in every respect. It is now nine months since the operation, and her health, I am informed, is perfect.

CASE 5. *Chronic pancreatitis; cholecystendysis; cure.*—The notes of the following case have been kindly furnished by my friend Mr. Peter MacGregor of Huddersfield. The patient was a female, aged 51 years, married, and the mother of several healthy children. "Her previous history was unimportant, but for two or three years she had been a dyspeptic and during the past nine months she had been more or less continuously under medical treatment for dyspepsia and recurring attacks of 'cramp in the stomach.' ..... I first saw her on August 19th, 1899, when I got the above history, and a careful physical examination elicited nothing beyond tenderness in the pyloric region. On the 28th, I was telegraphed for to see her and found her suffering from a severe attack of gall-stone colic. She was seen at intervals from August 28th to Oct. 16th. On the latter date I found her emaciated and in more or less constant pain, with frequent attacks of colic and distress after every particle of food and with much straining and vomiting. Every variety of food had been tried, predigested and otherwise, but all with the same result—constant pain and frequent vomiting. Dr. Williams told me that he could feel a tumour in the pyloric region, but the patient was so very ill and examination caused so much distress I did not satisfy myself of the fact. No jaundice on this date, but previous attacks of colic had been followed by jaundice. On Nov. 25th the patient came into a nursing home for operation. She was then in constant pain with frequent retching, deeply jaundiced, and a perfect skeleton. Operation (Nov. 28th).—On examining the patient under chloroform a hard, rounded, irregular tumour was found between the umbilicus and the ribs. On opening the abdomen the stomach, much dilated, was found extensively adherent to the under surface of the liver and on stripping it off, a healthy gall-bladder in the normal position came into view. The right kidney, which had been diagnosed as 'floating,' was examined and the diagnosis verified, but the rounded, hard, irregular mass behind the duodenum appeared to be so undoubtedly a malignant tumour of the pancreas that the abdomen was closed and the friends were informed that the case was malignant and hopeless. After history: The temperature never went above normal: stitches were removed on the ninth day. On the fifth day after operation patient had a chop for dinner. Within a fortnight the jaundice had gone, the appetite rapidly improved, and she went home at the end of three weeks feeling much better, although the four medical men who were present at the operation all felt, and said, she would die within six weeks. On March 15th, 1900, she was plump and fat, ate anything, had had neither pain, retching, nor vomiting since the operation. Her tumour had quite disappeared and her medical man had discharged her as cured many weeks since."

CASE 6. *Chronic pancreatitis; cholecystotomy; cure.*—A woman, aged 35 years, was admitted to the Leeds General Infirmary under the care of Dr. A. G. Barrs on Sept. 11th, 1899, and transferred to me a few days later with the history of having been subject to attacks of spasm in the upper abdominal region for 12 years, the intervals between the seizures having varied from a few days to several months, but of late they had become much more frequent, and during the week before admission she had had four attacks, all severe ones. The seizures began with pain in the epigastrium accompanied by cold sweats and faintness; the pain passed through the mid-scapular and to the right subscapular region, and lasted from two to six hours, having to be relieved at times by morphia. Jaundice followed the seizures, and if the attacks recurred frequently it was intensified with each, but if there was a long interval only an icteric tinge remained. Palpation revealed a point of tenderness in the mid-line one and a half inches above the umbilicus where there was a sense of resistance with an abnormal fulness, but there was no tenderness over the gall-bladder nor could any swelling of the gall-bladder or liver be discovered. On Sept. 21st a vertical incision through the right rectus exposed adherent viscera and on the separation of the adhesions a thickened gall-bladder was exposed, but there were no gall-stones in it or in the ducts. The lower part of the common duct was surrounded and overlaid by a well-marked swelling of the pancreas which was harder than usual, but not sufficiently hard to be mistaken for cancer though it was somewhat nodular. Cholecystotomy was performed and drainage was carried out for a fortnight. Recovery was uninterrupted and the patient returned home within the month and she has remained well since.

CASE 7. *Chronic pancreatitis with gall-stone in the common bile-duct; cholecyst-enterostomy; relief; relapse.*—A man, aged 45 years, from Queensbury, was admitted into the Leeds General Infirmary under my care on Nov. 3rd, 1899, suffering from jaundice with repeated attacks of pain and ague-like seizures. He had been well up to 13 months before his admission when the attacks began and since their onset he had lost 6 st. in weight. Jaundice followed the first seizure and persisted, but after each attack of pain it was more intense. He was so weak and ill that it was feared he could not bear an operation. An enlargement of the right lobe of the liver could be felt and on its inner side in the mid-line just above the umbilicus there was another tumour situated behind the stomach. On Nov. 9th an operation was performed on a heated table with the patient enveloped in wool, an injection of 10 minims of solution of strychnia having been previously given. On opening the abdomen an enlargement of the right lobe of the liver was seen, the gall-bladder was found shrunken under adhesions, a floating gall-stone too hard to crush was felt in the common duct, and a hard nodular tumour of the head of the pancreas was discovered. As the latter was thought to be

malignant and the patient was extremely feeble choledochotomy was not performed, but the gall-bladder was connected to the duodenum by a Murphy's button in order to give temporary relief to the jaundice, fever, and pain. He had a severe rigor on the night of operation but afterwards progressed satisfactorily and recovered from the operation. The button passed on the twelfth day and as he had gained some weight and was taking his food well it was thought that the operation was going to be of real benefit to him. The subsequent history of the case was as follows:—On Dec. 8th (a month and a day after operation) he had a feeling of chilliness, and a temperature of 101° F. followed for two days, his temperature being afterwards normal for 12 days, when he had a rigor and a return of the jaundice; from this time, although he got up every day, he gradually became weaker, and in January, 1900, he developed bronchitis which ushered in the final scene. At the post-mortem examination the peritoneum was found to be free from inflammation and the gall-bladder was found to be connected to the duodenum one and a half inches beyond the pylorus, but the opening had contracted so that it would only admit a fine probe. The common bile-duct was dilated and ulcerated and it contained a gall-stone of the size of a filbert. The liver was considerably enlarged and the right lobe was occupied by an abscess containing thick, slimy muco-pus. The walls of the abscess cavity were ragged and ill defined and it reached nearly to the surface both in front and behind. It was doubtless the result of the suppurative cholangitis which was present. The pancreas was much indurated about the head, and together with the indurated tissues in the small omentum presented on palpation the sensation of a tumour. On section it presented to the naked eye the appearance of chronic inflammation rather than growth, and on microscopical examination this view was confirmed, there being a great excess of interstitial fibrous tissue, but no sign of cancer.

To add other cases would be tedious to my hearers, but I thought it desirable in bringing forward a subject of this kind to illustrate it by a detailed history of cases that had actually come under my observation. The last case where death occurred from other causes two months after operation is, I think, of importance, as it enabled one to ascertain the after condition of the pancreas which at the time of operation presented the appearance and feel of a considerable tumour. It clearly shows that drainage is capable of relieving the form of pancreatitis which I have described, but that for permanent relief a cholecystotomy is a much safer means than a cholecyst-enterostomy, seeing that the fistula in the latter operation may close before it has completely done its work.

The difference in the results of operations for chronic pancreatitis and cancer of the pancreas is well shown in my own practice. Of 17 patients on whom I have operated and found chronic pancreatitis to be the obvious disease present, 16 have recovered, and except in the one case related the patients have been restored to health; whereas in cancer of the pancreas, of 16 patients only nine recovered from the operation and of these the prolongation of life was so short as to make me reiterate what I said years ago that if we can diagnose cancer of the pancreas with certainty any operative treatment is likely to be useless or harmful. Seeing, however, that sometimes the diagnosis may be doubtful, and that this must often be the case in young and middle-aged subjects, I am of opinion that an exploratory operation should be seriously considered in such cases, as, should the case turn out to be an inflammatory condition of the pancreas and not cancer, I think that I have proved that much may be hoped for by surgical treatment.

WESTERN COUNTIES VETERINARY ASSOCIATION.—The half-yearly meeting of this association was held at Plymouth on July 19th under the presidency of Mr. P. G. Bond. The President, in the course of an interesting address, reviewed the condition of the veterinary art for the past 30 years. Mr. Bond, in referring to the war in South Africa, said that anyone reading of the frightful condition of the horses and their want of proper treatment, as testified to by expert evidence, must be impressed with the urgent need of the veterinary department of the army being put on a proper footing, and he added that until the position of the veterinary surgeon in the army was as fully recognised as that of the medical officer, so long would this lamentable state of affairs continue.

A Clinical Lecture

ON

HAMMER-TOE AND HALLUX VALGUS AND RIGIDUS.

Delivered at St. George's Hospital on Jan. 23rd, 1900,

BY WARRINGTON HAWARD, F.R.C.S. ENG.,

CONSULTING SURGEON TO THE HOSPITAL.

GENTLEMEN,—There were three cases of "hammer-toe" admitted last week under my care; and so with these illustrations available, I think that it may be useful to make this deformity the subject of to-day's lecture. The cases may not seem at first sight to be of much importance or interest, and yet the condition is well worthy of your attention because of its frequent occurrence and the inconvenience which it produces. In its advanced or neglected stages the condition gives rise to painful and disabling lameness, and may thus prevent the sufferer from earning his living; or by interfering with exercise it may lead to serious loss of health.

The deformity to which the name of "hammer-toe" is applied consists of a retraction of the toe towards the metatarsus, with flexion at the first interphalangeal joint. An examination of cases in the early stages shows that the deformity commences by the retraction or hyper-extension of the proximal phalanx. The extensor tendon can be seen and felt on the dorsal surface of the toe, firmly contracted and showing prominently beneath the skin over the metatarsal bone. After a time, and as the retraction becomes more pronounced, the second phalanx becomes flexed so as to bring the last phalanx to the ground. This position throws undue pressure upon the extremity of the ungual phalanx, which is thrust upwards and extended upon the second phalanx, and the skin of the tip of the toe becomes greatly thickened and hardened. When this stage is reached the first interphalangeal knuckle projects prominently above the level of the adjacent toes; and now there is developed over the joint a corn which is the chief cause of the pain and lameness which ensue. Beneath the hard and thickened skin of all corns there is developed a bursa, the inflammation of which gives rise to the lancinating pain so often suffered. The outer wall of this bursa is continuous with the subcutaneous connective tissue, and hence, when the bursa becomes inflamed or suppurates, it very easily becomes the starting-point of a cellulitis which may spread up the limb and reach a serious degree and extension. This is especially the case when suppuration occurs within the bursa; the density of the surrounding tissues makes it difficult for the contained pus to escape, and I have seen many a serious case of cellulitis of the foot and leg having this origin. Short of this severe complication, however, the corn over the hammer-toe is certain to be the seat of frequently recurring inflammation, giving rise to severe pain and completely preventing walking, until at last ulceration occurs and causes persistent lameness and misery. So, you see, may an apparently trivial deformity become of serious and far-reaching importance.

I exhibit to you a number of specimens of hammer-toe which I have added to our museum, and which have been prepared to show the pathological anatomy of the condition. Some have been dissected to display the tendons and ligaments, and others to demonstrate the corn and subjacent bursa; in others sections have been made that the changes of the shape and position of the bones may be seen. I have dissected a great many such toes and have found them all showing essentially the same character. A study of the specimens before you will show the following points of interest besides those which I have already described. 1. That the deformity is not, as has sometimes been stated, dependent upon contraction of the *flexor*. It is not a mere flexion of the phalanx, but something quite different and more complex—viz., a hyperextension of the proximal phalanx, a flexion of the second phalanx, and a thrusting upwards and hyperextension of the ungual phalanx. 2. The extensor tendon is shortened; the flexor is not contracted but follows the plantar retiring angle. 3. The lateral ligaments

are shortened, the plantar ligaments are unaltered. 4. The articular surface of the first and second interphalangeal joints are altered in shape in accordance with the incidence of the pressure caused by their fixation in an abnormal position.

A clinical examination of the cases in the hospital shows in each case a condition of the toe exactly corresponding with the specimens upon the table. In each case it is the second toe which is affected, and all the specimens which I have shown you are second toes. Of the three patients before us Case 1 is that of a boy, aged 12 years, who has been lamed for several months owing to the inflammation of the corn on the hammer-toe. The second toe of the right foot presented the usual characters of the deformity—the first interphalangeal knuckle projected above the first and third toes, the corn over it was swollen, and the surrounding skin was red and tender. He tells us that several of his uncles have a similar condition of the toes, but he cannot furnish precise details of them. The boy is anxious to obtain employment in the public service, and therefore he desired a cure without amputation of the toe After subduing the inflammation of the corn I excised the articular surface of the proximal phalanx together with the corn, dividing at the same time the extensor tension, and at once straightened the toe.

Case 2 is that of a man, aged 23 years, who for the past year has been constantly lamed by the inflammation of the corns over a hammer-toe on each foot. The second toes had been contracted as long as he could remember and had gradually become more troublesome. He wished to have the toes amputated, and this has been done, the toes being removed by the oval method at the metatarso-phalangeal joint. I show you these toes, one of which has been dissected to exhibit the tendons and ligaments. The other has been sawn through longitudinally to display the position of the bones.

Case 3 is that of a domestic servant, aged 19 years, in whom the second toe of the right foot was a well-marked "hammer-toe." The toe has been contracted since early childhood, and lately the frequent recurrence of inflammation of the corn over the interphalangeal joint has been a constant source of lameness. Besides this the great toe was thrust outwards and its last phalanx pressed against the third toe, causing ingrowing of the toe-nail. The corn over the hammer-toe was ulcerated and the ungual phalanx was very bulbous with much thickening of the skin of the end of the toe, and of the nail. At the patient's urgent request I amputated the toe. At the same time I cut away the granulations and a circular flap of skin on the outer side of the nail of the first toe; by the contraction of the resulting cicatrix the skin was drawn away from the edge of the nail and its ingrowth prevented. The patient will wear a wedge of felt between the first and third toes, and must take care to have boots with a straight inner edge.

As to the causes of this deformity I must admit that I have no satisfactory explanation. It is not usually caused, as so many deformities of the foot are, by wearing mis-shapen boots, although it is occasionally attributable to the use of narrow boots, whereby the toes being crowded together the second toe is thrust up above the level of the adjacent toes. I have also seen a few instances in which I thought that it might have been caused by too short boots. In many cases the tendency to hammer-toe is inherited, the deformity often appearing in one side only of the family. In Case 1 several of the boy's uncles were said to possess hammer-toes. In the forty-fourth volume of the Transactions of the Pathological Society of London I have published a case which well illustrates this heredity.

The patient was a boy, aged 15 years, in whom the second toe of the right foot was a hammer-toe. His paternal grandmother (A) had hammer-toe—viz., the second toe of the right foot. A's son (B), the father of the patient, had the same condition of the second toe of the right foot. The following are particulars regarding B's children:—(1) son, hammer-toe, second toe of the right foot; (2) daughter, hammer-toe, second toes of both feet; (3) daughter, no deformity; (4) daughter, no deformity; (5) son, hammer-toe, second toe of the left foot; (6) daughter, no deformity; and (7) son, hammer-toe, second toe of the right foot.

The condition is sometimes congenital and may be seen in various degrees in infants. A somewhat similar condition of the fifth toe also occurs in infants. This is always congenital and does not as a rule attain the same degree of severity as in the second toe.

Then there is another class of cases in which all or nearly all the toes acquire a similar distortion, not usually of very severe degree, but sufficient to cause a very awkward gait and often considerable lameness. These are mostly met with in neurotic girls with bad circulation, whose toes are blue and cold, and in whom the first symptom is aching pain with contraction of the common extensor of the toes. After a time, as retraction of the first phalanx occurs, a proportionate amount of flexion of the toes is seen and corns begin to form over the knuckles. These differ from the ordinary cases of hammer-toe in several respects. In the first place all the toes are affected, as contrasted with the ordinary cases in which only one toe is contracted. Then, secondly, the deformity does not usually attain so severe a degree as in the ordinary form. And thirdly, when the patient is at rest the toes can be to a great extent straightened, though they are drawn into the contracted position immediately when movement is attempted. To which it may be added that this form of the deformity though not confined to women is very much more common in them; whereas the ordinary form is more prevalent among men. These cases seem to be of nervous origin, they prevail chiefly among overgrown, ill-nourished young women of feeble muscular power and constipated habit, who usually exhibit other signs of nerve disturbance.

Coming now to the consideration of the treatment of hammer-toe, I will speak first of the class of cases just described in which all the toes are affected. For these, in the early stages, manipulation of the muscles, friction of the limb and tip-toe exercise should be used; in addition to which attention should be paid to the general condition of the health. These patients should be warmly clothed, should be given plenty of fatty food, and should be treated for any tendency to constipation. Any cause of nervous irritation should be sought for and if possible removed, and every effort should be made to improve the nutrition of the body. If the extensor tendons are persistently contracted they should be divided. Moderate exercise, stopping short of fatigue, is beneficial, and the more varied such exercise the better is its effect. Active games, therefore, such as tennis and hockey, should be encouraged. Of course, properly-shaped boots with straight inner edge, broad soles, and low heels should be insisted upon. In the cases occurring in infants, much may be done by daily stretching and manipulation of the toe, together with, in some cases, division of the extensor tendon and any contracted ligamentous bands.

For the ordinary and pronounced cases of hammer-toe, such as those now in the hospital, there are several methods of successful treatment which may be adopted. The quickest way of ridding the patient of the trouble of a severe degree of hammer-toe is to amputate the affected toe at the metatarso-phalangeal joint by the oval incision, so that there is no scar on the plantar surface. The head of the metatarsal bone should be left, and the patient should be directed to wear a wedge of felt between the first and second toes to keep them apart and to prevent eversion of the great toe. Many hospital patients, naturally anxious for the quickest possible cure, prefer thus to sacrifice the toe rather than to submit to any of the conservative methods of treatment. But it is undesirable and unnecessary as a rule to remove the toe, especially in those persons why are destined for the public services, and the deformity may be easily and successfully remedied by excising the head of the proximal phalanx. This is best done be turning back a semilunar flap from the dorsum of the too and dividing the lateral ligaments; the head of the bone is then thrust out of the wound and cut off by bone forceps. If there is a bad corn over the knuckle it is best to excise it completely by converting the semilunar into an oval incision which surrounds the corn. The toe is then straightened, the skin is united by sutures, and the foot is kept on a splint for three weeks. Fibrous union occurs between the bones and the toe remains straight and gives no further trouble. Patients thus treated are quite fit for active service in the army.

In early cases of less severity, and in which there is no pronounced corn, it may suffice to divide the extensor tendon and the lateral ligaments, together with any bands that prevent complete straightening of the toe, and then to fix the toe for some weeks upon a narrow splint. This operation and the subsequent use of manipulation and stretching of the toe will cure many of the cases met with in children; but severer cases are much more successfully treated by excision of the head

of the first phalanx. Should the patient seek advice, as often happens, on account of acute inflammation of the corn over a hammer-toe, it will of course be wise to subdue this before undertaking any operation for the relief of the deformity. Let me remind you that when there are redness and œdema of the skin round an inflamed corn these symptoms and the accompanying pain depend upon inflammation and distension of the little bursa between the corn and the bone: and that speedy relief may be given by opening the bursa by passing a knife beneath the margin of the corn towards its centre and raising the thickened cuticle so that the fluid contained within the bursa may escape. A hot boric fomentation should then be applied, and when the bursitis and consequent cellulitis have completely subsided the excision of the corn, together with the head of the first phalanx, should be undertaken. Of the many cases in which I have practised this simple operation I have never seen other than a satisfactory result.

Besides these cases of hammer-toe you have recently seen under treatment a case of severe bunion, or "hallux valgus," on which it may be useful to say a few words; for this, again, is a common deformity which often gives rise to great suffering.

A woman, aged 24 years, had suffered from bunion since she was 10 years of age. The feet exhibited in a severe degree the condition characteristic of this deformity. The great toe was thrust outward so that there was a partial dislocation at the metatarso-phalangeal joint, and the head of the metatarsal bone was unduly prominent. It is interesting to notice (as I have shown in other cases) that where joint surfaces are not in contact the loss of functional activity leads to wasting of the articular cartilage. Thus it was seen, when this case came to be operated upon, that the articular cartilage over the inner third of the head of the metatarsal bone was much atrophied, and at the edge had almost disappeared. In older people there is often an irregular outgrowth of bone in this situation giving an additional prominence to its inner border. Over the prominence there was the characteristic circle of thickened and hardened skin between which and the bone there was a well developed bursa. The tendon of the extensor of the toe stood out tensely beneath the skin. This deformity is no doubt produced by wearing boots of which the inner edge slopes towards the middle line of the sole—a foolish fashion provocative of other evils besides bunion; some of the worst cases, however, occur in persons the subjects of osteo-arthritis, a disease which greatly aggravates the deformity. For such a condition as this patient exhibited the most satisfactory treatment is excision of the metatarso-phalangeal joint and of the bursa over it and the division of the tendon of the extensor of the toe. This having been done the toe was easily brought into a line with the inner border of the foot and fibrous ankylosis has taken place in that position. We took care that the patient had a pair of properly-shaped boots and in these she can walk quite comfortably. This operation seems to me to be much more likely to give satisfactory results than excision of a wedge of the metatarsal bone; in some cases, however, it is sufficient to remove the metatarsal head and to leave the base of the phalanx.

In slight and early cases division of the extensor tendon and forcible straightening of the toe may be practised, but this must be followed by the use of a digitated stocking and a wedge of felt between the first and second toes; or a boot may be worn with a separate division for the first toe. A spring splint should also be worn at night. But excepting for these slight cases the splints, springs, and other kinds of apparatus which have been invented for the treatment of bunion are worse than useless.

One other case which I will briefly allude to is that of a boy, aged 15 years, who was admitted to hospital on account of lameness due to the condition known as "hallux rigidus." The patient is employed in the post office and has much standing. There was a slight degree of flat-foot, and the right metatarso-phalangeal joint was rigid, painful, and incapable of voluntary movement. The position of the bones was not altered and there was no pain on moderate inter-articular pressure, but any attempt to walk or to bear any weight on the foot gave severe pain. I treated this boy for some time as an out-patient (as he was anxious not to give up work), supporting the arch of the foot, taking off pressure from the painful joint, &c., but with no benefit. He was therefore taken into the hospital and I excised the head of the metatarsal bone. This relieved him of pain and enabled him to walk with comfort. I could discover no disease of the bone or articular cartilage; the only abnormality seemed to be that the joint surfaces were fixed rigidly in close contact but without any real ankylosis.

Presidential Address

ON

THE PRESENT POSITION OF PHARMACY.

Delivered at the British Pharmaceutical Conference on July 24th, 1900,

By E. M. HOLMES, F.L.S.,

PRESIDENT OF THE PHARMACEUTICAL SOCIETY.

LADIES AND GENTLEMEN,—At the commencement of the century chemists and druggists had just begun to separate into a distinct body from grocers and general dealers. But it was not until 1842, when they obtained a Royal charter of incorporation, that they began to assume the character of an educated body. As the semi-professional character of the business became recognised, in consequence of the examination and education that chemists were compelled to undergo, the number of young men entering it gradually increased. These were and are still drawn largely from respectable families with small incomes who, misled by the small amount of capital necessary to start a business and the reputed large profits, do not recognise that the returns are usually so small that the grocer and draper can make eight or ten times more money, even on small profits, than a chemist is able to do. Nor is it generally recognised that the business depends far more than in any other trade on the personal integrity of the proprietor and that it takes time to acquire the confidence of the public. The fact that the keen financial instincts of the Jews have never led them to embark in pharmacy might have served to indicate to the general public that the business of the chemist and druggist is not so lucrative as is generally supposed. The wills of pharmacists never present large figures and millionaires are unknown in British pharmacy. Nevertheless, the supply of dispensers of medicine has exceeded the public demand. The principle of free trade has prevented such a limitation of the number of those engaged in pharmacy as is prevalent in some other countries, with the result that, like all other trades and professions in this country, its ranks are overcrowded. At the present time there are about 15,600 registered chemists and druggists, of whom it is estimated that about one-tenth only, whom for convenience we will call pharmacists, actually derive their principal income from the dispensing of prescriptions, a small number from what is known as counter-prescribing, and the remainder from light retail and dispensing business, the dispensing being a comparatively small proportion. In some parts of the country, especially in Scotland, there is a much larger proportion of pharmacists who dispense medicine than in England. Even in different parts of England, in some towns the medical men almost invariably dispense their own medicines, whilst in other towns a few miles distant the dispensing is done almost entirely by pharmacists for the medical men. The cause of these local differences seems worthy of investigation, which might lead to more uniformity of practice. There is little doubt, as was pointed out last autumn by Dr. D. J. Leech (whose premature decease we all deplore), that the practice of pharmacy by medical men is not only an evil to the pharmacist but a disadvantage to the medical men themselves, and that medical men would gain if, wherever possible, they gave up dispensing. It is obviously for the safety of the public that every dispenser of medicine, whether employed by a pharmacist, by coöperative stores, or by a medical practitioner, should have passed a qualifying examination in the art of dispensing medicines, and that every medical man who dispenses his own medicine should have passed the same examination in the subject as the pharmacist whose duties he takes upon himself. But under the modern system the medical student, although he has the opportunity of taking up a course of pharmacy at a hospital or medical school, is often not very conversant with the

subject. The safety of the public is best secured when the dispensing of prescriptions is checked by a second or third qualified dispenser, as is the case in dispensing establishments where several assistants are kept. In respect of poisons especially the public needs protection, inasmuch as it does not know their properties or their antidotes, and the chemist and druggist—as being familiar with both and therefore capable of devising suitable precautions to safeguard their use and to give advice in cases of accidental or other wrongful uses of them—is obviously the fittest person to sell them, whilst it is probably largely due to his lack of energy and want of business enterprise that the poisonous articles used in the arts and for sanitary, insecticidal, or horticultural purposes have not always passed through his hands.

There is another direction in which the safety of the public is likely to be affected. Drugs vary exceedingly in quality. In order to sell cheaply at a working profit it is necessary to buy cheaply. As prices are lowered by coöperative stores the tendency will therefore be to buy inferior qualities to meet the demand for low prices. In the case of drugs used in medicine this may lead to serious results, since when medicine is required to act quickly and effectively, as in croup or in parturition, &c., if the ipecacuanha or ergot be of inferior quality serious danger to life may result through its want of activity. In Russia, Germany, Scandinavia, and Greece this difficulty is met by a legalised tariff for dispensed medicines. In this country it is left to the public themselves to judge by the British Pharmacopœia which upholds a high standard of purity in medicine, and the importance of asking for "B.P." preparations might well be taught to the laity by the wider use of these two letters on ordinary labels.

It has been stated by medical men that what is known as counter-prescribing by pharmacists is one of the causes why dispensing is not entirely handed over to the latter by the medical profession. The subject is no doubt surrounded with practical difficulties, but probably these are not insuperable. There is no law to prevent a man, however ignorant he may be, from prescribing remedies for himself, his friends, or his household, and it has been stated on high medical authority that it would not be objectionable for persons to apply at a pharmacy "for simple remedies for toothache, muscular pain, or trifling dyspeptic ailments, provided the person seeking relief knew what he was about and was not deceived by the assumption of an authority, or of titles, on the part of the chemist, and provided that such relief was merely to be regarded as first aid, or a temporary expedient" for a definite complaint stated by the patient. But this is a very different state of things from what is known as a prescribing business, in which the chemist goes beyond his province in diagnosing disease and supplying remedies for it. In such business the straightforward plan would be for the proprietor to qualify as a medical practitioner or to arrange with a properly qualified man to see his clients. The converse of this is the medical practitioner who keeps open shop like a chemist, and to whom is largely due the difficulty that the uneducated public find in distinguishing between a chemist's and a doctor's shop. It might be possible, perhaps, for representatives of the medical profession and the Pharmaceutical Society to arrange a conference to make mutual provisions for counter-prescribing by chemists to cease on the one hand and the keeping open shop by doctors on the other. This would need disciplinary powers for both bodies to deal with offenders, but the two bodies united could probably, by a good organisation, bring sufficient influence to bear upon the Government to pass an Act authorising such powers.

The real difficulty for the conscientious pharmacist lies in the impossibility of ascertaining whether the case, very often that of an absent person, comes within the limits of first aid or temporary expedients. This difficulty would probably be met most satisfactorily if a small official work were issued by the General Medical Council or by Government authority to the general public indicating on general lines the premonitory symptoms of dangerous or zymotic diseases such as would distinguish, for instance, an ordinary cold from incipient pneumonia or a sore throat from approaching diphtheria or scarlet fever. Such a work in the possession of the heads of families and on the desk of every chemist might serve to indicate both to the public and the pharmacist a dividing line between first aid and the necessity of medical treatment and supervision.

Another difficulty lies in the fact that in small villages where there is no chemist and no carrier it is difficult for the medical man to avoid dispensing. Here, however, is the opportunity of the enterprising chemist in the nearest town to see that the medical man has a portable outfit which he can carry with him on his rounds. The advantage of such portable medicine chests in country villages and for travellers has already been recognised by enterprising London firms which have adopted and enlarged upon the hint given by Brockedon's compressed potassium bicarbonate of 50 years ago. The increase in the rapidity of travelling and the absence of an international Pharmacopœia has caused a demand for portable medicines which has been increased by the opening up of new countries where it is impossible to obtain medicine, so that a new industry in this direction has been developed in which English pharmacists, with characteristic conservatism, have allowed Americans to take the lead. The great advantage in the saving of time by the use of portable medicines to both the medical practitioner and the patient in country districts where there is no chemist within several miles and where the considerable delay in the delivery of medicine, by reason of the distance, is often of serious importance, is almost certain to lead to the permanent adoption of such time- and labour-saving devices. The value to the public of portable medicine for travelling purposes cannot be denied, as well as to the Government, since in military and naval operations the sudden demands made upon medical stores and appliances necessitate the use of drugs and preparations occupying as little space as possible, in a form as concentrated as is compatible with safety and not readily affected by the vicissitudes of climate. This form of medicine has therefore become a feature of the pharmacy of to-day and is likely to develop still further. It has, however, the disadvantage of placing in the hands of the laity powerful remedies which they are apt to use without proper medical advice and without the ability to judge of the nature of the disease for which they employ them.

The vast number of new vegetable, chemical, and animal remedies introduced during recent years, and the impossibility of keeping pace with them, on the part of the medical men and the pharmacist, especially in the provinces, where as a rule new remedies do not come into use until two or three years after introduction into city practice, has led to the comparative disuse of the Pharmacopœia for prescribing purposes and to more dependence being placed by physicians concerning new remedies upon such works as Martindale's "Extra Pharmacopœia" and Squire's "Companion to the British Pharmacopœia," works which enterprising pharmacists have produced to meet the necessities of medicine and pharmacy during the time that elapses between the publication of one Pharmacopœia and another. These works have also the additional advantage that they contain tables of diseases and of all the most modern remedies used for them, as well as the doses and formulæ showing useful combinations of the various preparations. In these rapidly progressive times the pharmacopœias cannot, even if published decennially, be actually up to date; it can only crystallise into a definite shape formulæ that have already been in use for some time. The Pharmacopœia is now really more used by pharmacists as a standard for insuring uniformity in official preparations than by physicians for prescribing purposes. It is only just, therefore, that pharmacists as a body should have an influential voice in its construction, especially as they have shown by publication of numerous formulæ that have been accepted in the previous pharmacopœias that they are quite capable of devising approved formulæ. The medical profession must, of course, necessarily determine what remedies and preparations shall be included in it for their convenience.

THE PHARMACOPŒIA AS A LEGAL STANDARD.

Many vexatious prosecutions of chemists have resulted from the fact that the British Pharmacopœia has been erroneously supposed by many analysts to be a legal standard for the purity of drugs. The statement in the Pharmacopœia that the work is "intended to afford to the members of the medical profession, and those engaged in the preparation of medicines throughout the British Empire, one uniform standard and guide, whereby the nature and composition of substances to be used in medicine may be ascertained and determined," in no way indicates that it is to be used as the legal standard of purity for drugs used in commerce for domestic and technical purposes. To prosecute chemists because, for instance, tincture of myrrh, which is

used as a dentifrice rather than as a medicine, or benzoin, which is used in French polish, or soft soap, or ammonium carbonate, soda water, or other articles in regular household use, do not answer to the tests of purity of the B.P. would constitute an interference with trade that would be as absurd as it would be vexatious. That the standard of purity used in dispensing physicians' prescriptions should be as high as it is possible to make it is an article of faith of the British Pharmaceutical Conference, but there are many cases in which drugs and preparations which are B.P. articles are used for other than medical purposes, and for such the average of normal condition of purity meets all the requirements of the case. There is, therefore, a need for a published standard of normal or average purity of drugs for this purpose until such time as the Government realises its duty to publish a legal standard, by which the provisions of the Sale of Food and Drugs Act can be effectively and justly carried out. In the absence of any definite Government standard for drugs this is the work which analysts, in conjunction with pharmacists, should take up, and one that the conference should support in the interests both of the public and of chemists themselves.

There appear to have been several causes that led to the erroneous supposition that the B.P. is a legal standard for the purity of drugs. One is the misleading use of synonyms in the B.P. The names of commercial products in several cases in which they differ considerably in composition from the official article are given as synonyms, such as "milk of sulphur" for sulphur præcipitatum and "soft soap" for sapo mollis. Such synonyms are misleading and serve no useful purpose, since medical practitioners never use them in their prescriptions, and they might well be omitted. Another cause that leads to unjust prosecution is due apparently to the ignorance that exists amongst analysts who are not also pharmaceutical chemists concerning the rapid changes that many vegetable and other preparations undergo when kept in stock. Indeed, it would be a considerable advantage to both analysts and the public if the former were required to pass the major examination of the Pharmaceutical Society before going in for the more stringent chemical examination of the F.I.C., since a knowledge of the physical and histological character of crude drugs is practically essential to the accurate determination of their purity or otherwise.

It may here be remarked that a fear lest the B.P. might be used as a legal standard seems to have had a deteriorating influence on its construction, having apparently led in some cases, such as those of myrrh and aloes, to a lowering of the limits of purity, so that it is possible for very inferior qualities of the same drug to be sold and still meet the B.P. requirements. Such latitude is deplorable, since it leads to unfair competition and affords no security to the public that they get the article they want when they desire that their medicines—for instance, compound liquorice powder, Gregory's powder, or confection of senna—should be of the best quality and effective action, even if prepared according to the B.P.

AN INTERNATIONAL PHARMACOPŒIA.

A general pharmacopœia that would enable a pharmacist to dispense a prescription with uniformity in any pharmacy on the continent may be regarded as a utopian rather than a practical idea and could only be attained by alphabetically arranging in dictionary form all the formulæ in all the known pharmacopœias. But there can be no reason why an approach towards it should not be made by a congress of medical men and pharmacists, limiting their attention, in the first place, to poisonous preparations only, and in order to avoid international jealousies adopting as a standard the formulæ that approach nearest to decimal proportions. The comparison of different formulæ is rendered a simple matter by the publication of the different strengths of preparations of the various pharmacopœias in Squire's "Companion to the British Pharmacopœia." The next step might be to make uniform the strength of the most generally used preparations that are not poisonous. A really useful International Pharmacopœia cannot be otherwise than a gradual growth.

The introduction of standardisation of the more powerful preparations of the Pharmacopœia and the stringent chemical and microscopical tests now ordered in that work to ascertain the purity of drugs cannot be carried out in any but large businesses where several assistants are kept and where one man can devote his whole time to testing drugs and standardising preparations. Hence the personal guarantee of the purity of the preparation he supplies is passing out of the hands of the single-handed retail pharmacist.

The increase of knowledge in every branch of medical science has caused the study of pharmacy and pharmacognosy and dispensing to be somewhat neglected and forced them to occupy a comparatively unimportant position in the curriculum of medical study, so that the act of prescribing is in danger of being lost. The medical practitioner—anxious to utilise the most recent improvements in scientific remedies, but with his time fully occupied in visiting patients and diagnosing diseases—consequently indicates what he requires to the pharmacist who readily supplies him with a list of formulæ compiled from the most recent publications or specially devised to meet the wants of the prescriber who accordingly chooses from those put before him the one he considers most suitable. Naturally, these preparations can be more economically prepared on the wholesale scale. The retail pharmacist has little chance of success unless he can conduct his operations on the large scale and many of the more enterprising are therefore turning their businesses into limited liability concerns. Co-operation is a growth of the times, an outcome of competition. Judging from past history it is as unwise and useless to attempt to oppose coöperation as it was for the courtiers of Canute to ask him to forbid the advance of the sea. Coöperation has come to stay and, like a forest fire, can only be met by similar tactics—i.e., by coöperation. The only hope for a livelihood for those who have not much capital is in coöperating with those who possess it—a coöperation of knowledge with business capacity.

With respect to the use of the titles "pharmaceutical chemist" and "chemist and druggist" by companies it is difficult to find any sound objection to this provided all the members of the company are legally qualified to use it; but where they are not, and company laws are utilised to cover incompetent persons who have possibly failed to satisfy the legally-appointed examiners of their competency to dispense medicine, such an illogical and unjust use of the titles should be uncompromisingly opposed by a thoroughly well-organised political resistance to any Bill proposing it. In other words, no company should be allowed to use a legal title for which its members have not the qualification prescribed by law. The logical result of such a concession would be to nullify the Pharmacy Act, since if one man who fails to pass an examination in pharmacy can join with six others to form a limited liability company which can use the titles of "pharmaceutical chemists" or "chemists and druggists," a number of persons would be able to do what the law has expressly stated one man may not do. The injustice that would thus be done to those who have already expended much time and money to obtain the title is so obvious that it can hardly be possible that disinterested and conscientious legislators could support such a provision for disregarding vested interests or could adopt the principle it would involve of making one law to enable persons to evade another.

Another change noticeable during the latter part of the century has been the enormous increase in the public demand for what are known as patent medicines. This may be seen from the amount derived from the sale of medicine stamps, which has increased from £43,692 in 1860 to £266,404 in 1899. The preparations commonly alluded to under this heading consist in reality of at least three different classes. 1. The quack medicine, a preparation advertised to cure everything, or nearly so. 2. Proprietary medicines, such as chlorodyne, liquor opii sedativus, liquor bismuthi, fluid magnesia, pepsin wine, &c., which have some real value as medicinal agents, and have been so much prescribed by medical men that in many cases official imitations have been introduced into the Pharmacopœia. 3. Proprietary articles for domestic use, such as perfumes, hair lotions, peptonised and pancreatised and malted foods, inhalers, court plaster, and skin soap. The articles in the first class are objectionable from every point of view. But proprietary medicines are often the result of the application of chemical knowledge and pharmaceutical skill in advance of the time, and, as such, and as comprising also the personal element, have a value of their own. So long as they are prepared by one person directly interested in the excellence and uniformity of the production they are even more likely to be uniform in character than a B.P. preparation prepared by different operators within the too often wide limits of quality of drugs allowed by the descriptions and tests of that work. Proprietary

articles, as distinct from proprietary medicines, are usually started to meet a public want, and although their sale doubtless depends largely on advertisement, they would soon go out of use, like date coffee, if they had no intrinsic merit of their own. Those articles, therefore, form a part of the chemist's business that is worthy of attention from another point of view than that of retail sale. Whilst the limit of profit is reduced by the competition of stores to a level at which it does not pay the chemist to keep his money lying idle in stock, the obvious remedy is for the chemist not to retail any proprietary articles except his own or those which are protected by the P.A.T.A.[1] Each chemist should manufacture his own specialty, since the manufacturer's profit is certain and can be arranged at a paying rate, whilst that of the distributor is not so in many cases. The stores and large capitalists by buying in very large quantities can alone make these retail sales pay at the present ruinous prices, and the heavier their stock and the more numerous the articles they are compelled by the demands of the public and by advertisements to keep in stock the less profit they will get, until a time arrives when the interest lost on money lying idle in such stock must lead to the raising of prices or to giving up the sales.

The present state of pharmacy is a somewhat anomalous one. As hitherto practised in this country it consists, like the fabulous mermaid, of two incongruous halves. On one side it is a business which to be successful must be carried out on business lines; on the other side it is a profession which should be conducted in accordance with professional principles. But as both are usually carried on in one room the public finds a difficulty in discriminating between them and concludes that the price paid for the dispensing of medicine represents an enormous profit on drugs, instead of being partly a legitimate profit and partly a very small professional fee, no allowance being made for the skill and knowledge bestowed on the preparation of medicine or for the responsibility of insuring accurate dispensing. This is not to be wondered at if the pharmacist himself does not draw the distinction, but carries on both the business and the profession in one and the same room. Patent medicines and packed goods and ready-made preparations which require no skill and entail no responsibility cannot be sold at professional prices, and it should not be a matter of surprise, if such prices are demanded, that business men step in and sell them according to business methods. The two departments must be kept quite distinct if the public is to recognise the professional side of pharmacy. But the public is perhaps beginning to understand that there is such a side, for in cases of serious illness most people prefer to have their medicine dispensed by firms whose reputation as accurate and conscientious dispensers is unquestioned rather than at stores. If the public has not yet learned that there is as much difference in the qualities of drugs as there is in the quality of tea, coffee, and other groceries it is the fault of the druggist for not pointing it out and proving that those who sell cheaply must necessarily buy cheaply, since a business man is not likely to sell the best article at the price of the lowest and try to live by the loss. So long, however, as the Pharmacy Act of 1868 continues in operation it is almost impossible for the pharmacist to divorce his business and his profession. He is faced by the position that the Government requires from the pharmacist, for the safety of the public, an expensive and tedious course of study before he can legally acquire the title of "chemist and druggist" and before he can supply certain scheduled poisons to the public, although he may rarely see a prescription, and other traders can sell other poisons, equally fatal and more frequently used, such as carbolic acid. Those, therefore, who live in districts where the business obtainable partakes more of the nature of that of a general dealer in chemical substances used for technical, agricultural, or horticultural purposes, and involving no personal responsibility, only pass the qualifying examination because they are obliged to do so by law, not because the knowledge of dispensing is of much use to them. This class forms probably at least three-quarters of those engaged in business as chemists and druggists, especially in the more populous centres in the Midlands and North of England. What they most need is a commercial education, instructing them in business methods and modern requirements. This has not hitherto formed part of a pharmacist's education and therefore the importance of the course of commercial education which has been started in some of our universities, and already forms an optional subject in the Philadelphia College of Pharmacy, cannot be over-estimated—at all events, for those chemists and druggists who have to depend chiefly upon the sale of miscellaneous chemical and other articles rather than on dispensing. The conditions which have hitherto obtained in the retail trade of chemists and druggists have not during the last 50 years been favourable for acquiring a useful knowledge of business methods, and such knowledge has undoubtedly in some cases been sought in a practical form at coöperative stores in the same way that Germans come to this country to learn English methods of business and then use them against us. The stores have, at all events, served a good purpose in tending to cause coöperation among chemists themselves. Coöperation can only be successfully met by coöperation, and when competition has lowered profits to a point at which it is impossible to live the natural reaction is bound to follow in the form of combinations or trusts to keep up the price to a remunerative ratio. This has been manifested already in connexion with the paraffin oil and cotton thread industries and iodine, and the P.A.T.A represents a step in the same direction.

[1] Proprietary Articles Trade Association.

THE FUTURE OF PHARMACY.

The history of the closing century indicates that scientific progress may be expected to be increasingly rapid in the coming one. As each new theory opens up new roads of discovery new trades will follow, or a differentiation of old ones. The pharmacist or dispenser of medicine will probably find enough to do in connexion with new synthetical products, proprietary articles requiring knowledge and skill, and new medical appliances. The chemist and druggist will find that he must keep pace with discoveries in chemistry and the technical uses of new chemicals, and will learn to realise the meaning of Playfair's maxim, that the competition of industries is the competition of intellect.

As the science of sanitation increases, and the laws of health become better known, demands for antiseptics and preservatives of all kinds, both for public and domestic purposes, are certain to increase, and the time may come when liquid air or liquid oxygen will be as commonly sold for sanitary purposes as potassium permanganate is at the present day. The study of animal chemistry, as yet in its infancy, may lead to the preparation of foods that will involve no waste of energy in digestion, and in combining the maximum of nutrition with the minimum of space. The immense importance of such concentrated food for travellers and for armies engaged in districts where transport is difficult may be easily conceived. The investigation of cellulose and protoplasm will probably reveal to chemists the methods by which gum, wax, fats, oil, starch, and even alkaloids and glucosides, are formed by plants, and before another century is over it may be as easy to obtain artificially by chemical means all these important commercial products from sawdust as it is to prepare glucose at present.

The knowledge that bacteria and ferments can produce substances which result in their own destruction will probably be carried out to its logical conclusion, until for all diseases resulting from these causes appropriate antidotes will probably be discovered and kept in stock by the pharmacist, by whom means of preserving them in active condition for a definite time will have to be discovered. The study of the healthy glandular secretions of the human body as remedies in disease will almost certainly lead to a study of the chemical processes by which they are formed, and the attempt to produce them artificially. This, again, may possibly be followed by an investigation of the nervous stimuli under which they are produced in nature, and to the properties of the nerve force which causes the secretion of the various fluids produced by the glandular system for the reparation of bodily waste.

Another and far-reaching object of research may be the scientific investigation of the inter-relationship of mind and body, the possibility of disease being caused and cured through the mind or by the power of the will to control the supply of nervous force to the various organs of the body. Possibly many of the diseases attendant on lowered vitality might thus be successfully combated. A study of the laws regulating the curious phenomena of idiosyncrasy, which is one of the greatest hindrances to the scientifically accurate treatment of disease, may lead to the possibility of preventing it or curing it at an early stage by hypnotic

suggestion or other means. But whatever discoveries the future may have in store the existence of the pharmacist will in any case depend upon the power of accommodating himself to new conditions and his ability to turn to practical account the very latest discoveries in science.

ADDISON'S DISEASE AND LEUCODERMA.

BY SIR SAMUEL WILKS, BART., M.D. LOND., F.R.S.,
PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

IN a lecture lately given at the Medical Graduates' College and Polyclinic by Sir William Gairdner, amongst other subjects said that he wished to say something about the connexion of leucoderma with Addison's disease. He spoke as follows, taking only the points at issue: "Possibly some of you may, and others may not, recollect a very early instance of this association which is of some historical interest. It is in Dr. Addison's famous monograph on Disease of the Suprarenal Capsule. I show you here the book and the plate. It is an evident case of leucoderma which Addison himself at least must have included in the book because he thought it was a case of disease of the suprarenal capsules. But, unfortunately, he had not a post mortem in this particular case. It is curious that Dr. Wilks, writing in Reynolds's 'System of Medicine,' puts his finger on this case and says because it was of a leucodermic order it is not a true case of Addison's disease. In short, he disputes Addison's own view of it. Now a good many years ago I had a case sent to me very late in the disease, when the patient was extremely ill, for an opinion. It was to my mind a case of Addison's disease, with pigmentation, largely of the usual Addisonian type but interspersed with circular and sometimes coalescent patches of vitiligo. That opinion I maintained until the patient's death. A post-mortem examination showed the usual form of disease of the suprarenal capsules. Dr. McCall Anderson, who had seen the case at an early period, had 'spotted' it as a case of leucoderma, but I do not know whether at that time he had made up his mind that there was any sufficient evidence of Addison's disease. However, the case is published in his book." "Not long after this the International Medical Association met in London in 1881 and Dr. Headland Greenhow read a most elaborate paper upon Addison's disease, and you all know how careful Dr. Greenhow was, not only as an observer, but as an almost exhaustive commentator on the literature of a subject. In reference to Addison's disease he may be said to have left almost nothing unnoticed up to the date of his research which is now published in a volume accessible to most of you. At the end of the paper I raised a question and stated briefly the leading facts of the case just referred to which had not at that time been published. I brought forward no theory, but thought the opportunity was a favourable one for ascertaining if anybody else at home or abroad had anything to say on the matter. We got no response. I alluded to the fact of Dr. Wilks having differed from Dr. Addison himself about the significance of leucoderma, as shown in Dr. Addison's own book, and suggested that it was a point requiring to be more carefully dealt with. But there was no information forthcoming and therefore we are bound to assume that no one there present (and it was a large assemblage) had anything to show. I have not seen many cases, but I have seen two or three more or less suggestive of the same thing and I happen to have at this particular time one such case under my care."

I should now like to say something with reference to these remarks of Sir William Gairdner which I think places the subject in a somewhat different position from that in which he sets it forth. I should like to take the opportunity of repudiating altogether the suggestion which some of my friends have made that I had any share in Dr. Addison's work. He was entirely original in his observations and I did no more than that which every pupil does, collect the cases, get the drawings made, and help the publication. This small participation, however, gave me special opportunities for continuing the work. During the next three years several fresh cases came under my notice and then I discovered how unique the disease was, that the change in the capsules was of one uniform kind, and that the discolouration of the skin also had its special characters. The malady, it may well be surmised, was a constant subject of conversation and I may here state that Dr. Greenhow was a frequent attendant in Dr. Addison's wards and acquired knowledge of Addison's views. I then placed all the new cases together, showed what three years had done in defining our knowledge, and in that paper repudiated the case of vitiligo. Before publication I showed my paper containing this repudiation to Dr. Addison. He returned it without comment, but wished me to publish it.

This paper was published in the Guy's Hospital Reports for 1859. I therein say: "As regards the character of the colour when it occurs the observation of several instances since the publication of the original memoir has shown that very great similarity has existed in all of them both as regards the colour itself and its method of affecting the body by a uniform implication of the whole surface. It is true that a case is represented [in Dr. Addison's work] where the body is covered with patches of colour chequered with white, but here no post-mortem took place to verify the diagnosis, and thus the fact is left as we state, that in the first related cases as well as in all subsequent ones there has existed a uniform discolouration of the whole integument. So remarkable has this been that the body has presented the appearance of a person with dark blood rather than that of a European and therefore the answer which Dr. Addison continually makes to interrogatories respecting the peculiarity of the discolouration is that he regards only those cases as characteristic where the surface of the body is seen to be gradually approaching in colour that of an inhabitant of some southern nation."

After another three years I had collected several new cases and wrote a second paper for the Guy's Hospital Reports for 1862. In this I reiterated my statement as to the uniform character of the disease. I say: "My principal object in bringing the subject before the profession is not only to strengthen the original facts by fresh instances but to point out how Addison had somewhat overstepped his own boundaries by including amongst his own cases some which did not present the true features of the disease and thus I hope, by purging his treatise of these examples, to place this remarkable affection on a much surer basis than it has hitherto had. The disease, indeed, will have more unique and special characters of its own and may be regarded with more justice in the light of a true discovery than Addison himself conceived and even more worthy to be honoured with his name than would a disease having the undefined nature which he himself assigned to it. I may at once admit that this want of definition and precision as to its true pathological character has constituted the great hindrance to the progress of the discovery; the belief of Addison being at the time of the publication of this work that any disease which affected the integrity of the suprarenal capsule would be attended by the remarkable phenomena which he described, and consequently his cases include a variety of morbid conditions of these organs which are clearly not true forms of the disease, and Addison, I believe, was beginning to see the truth of what is now evident that some of the cases which he had published have only stood in the way of the full development of his discovery, for all subsequent observations have shown that, so far from his early conclusions being correct, we have no recorded instance of the affection being connected with cancer, or, indeed, with any other kind of disease of the organ than the one which was found in the genuine cases which he first described, and which all subsequent experience has shown to constitute the true form of the malady. Unfortunately, too, Addison had placed in his work the drawing of a patient of whom no necropsy was made to reveal the true nature of the disease and that illustration has in all probability misled many by giving a false representation of the usual character of the discolouration of the skin.

"If these doubtful cases be eliminated from Addison's list there remain five which constitute a sufficient basis for his conclusions. I might say, also, that these were his early ones and those on which his own opinions were formed; it is therefore to be lamented that in the ardour of a fresh discovery he was led to include cases of which he had no opportunity of proving their genuineness. Fortunately for myself I was well acquainted with all the cases which Dr. Addison describes and have also had the opportunity of examining every subsequent example of it which has occurred in Guy's Hospital as well as seeing and discussing with the late lamented

physician many of his private cases, and I know, had he been spared to bring before the profession another edition of his work, he would have cropped his pages of those doubtful instances which have done much to retard the spread of the discovery. I may say, also, that Dr. Addison was in the habit of submitting to me all the specimens which he was constantly receiving from various parts of the country taken from patients who were supposed to have suffered from the affection bearing his name." "In clearing the ground of some of the extraneous matters which Addison introduced into his work the subject will stand much as I believe the author himself would have understood it at the time of his death."

I will now make a few remarks on these two positive statements, made many years ago, with regard to the uniform staining of the skin and the one disease only of the adrenal bodies—statements which have been reiterated by me on many occasions since. As regards the changes in the capsules it has always been surprising to me that anyone who has any knowledge of pathological processes should doubt my position. These changes, which may be in slow progress for years, must have their origin in the capsules themselves and cannot be due to any accidental affection which may alight upon them. The suprarenal disease, therefore, resembles in this respect the primary diseases of other organs, such as phthisis, cirrhosis of the liver, or Bright's disease. In these affections beginning from within there are certain symptoms due to the gradual impairment of the functions of the organ and we never think of looking for these symptoms if the organs have been accidentally attacked by a cancerous growth or hydatid. This shows how crude Dr. Addison's views must have been to have inserted a case of cancer because there was also present some discolouration of the axilla. I was in the habit of describing the true disease as one of inflammation of both capsules causing the production of an albuminous matter which subsequently softened or became cretaceous, and often ending in the disappearance of the organ, such as is sometimes seen in a lymphatic gland or the thyroid body. Before bacterial times we often called these cheesy organs "scrofulous" or "tuberculous." When I speak of this disease of the capsules as primary I include those cases where the inflammatory process has proceeded from caries of the spine.

And now I will state how the matter stands. Dr. Addison taught in his oral discourses that the discolouration of the skin was uniform and he was in the habit of saying that it could not be distinguished from that of a person of dark blood; he never said a word about white patches or vitiligo. I confess it is remarkable in a man of his scientific accuracy that he should have allowed himself to have inserted the case of leucoderma when it was brought before his notice by a man who had only a superficial knowledge of the disease which Addison had discovered. After the publication of his memoir the author continued to teach as heretofore, never saying a word about leucoderma, and when, as I have before stated, I showed him my paper objecting to the case he acquiesced in its publication. What I then said I have reiterated on numerous occasions for nearly half a century, during which time many cases of leucoderma have been sent me as supposed examples of Addison's disease. In no single case has this proved to be true.

Again, Sir William Gairdner speaks of the exhaustive treatise of Dr. Greenhow, written 25 years after Dr. Addison's first memoir, and says that the author makes no mention of leucoderma. What does he infer from this? Now with all this evidence of a remarkably uniform kind of 50 years I have referred to me a case which Sir William Gairdner on more than one occasion has mentioned as opposed to the doctrine which I have all my life maintained. I hold myself open to correction if there be other instances, but the only one to which he referred me and the hearers of his lecture was that which he saw in consultation with Dr. McCall Anderson and could be found in the work of the latter author. It is a pity that the case was not a more striking one for Sir William Gairdner's purpose and as accurately reported as the large series of cases which have hitherto come before me. In his case I do not understand that the patient was covered over his body with white patches as in Addison's drawing, for the history only speaks of the spots on the arms and backs of the hands, which parts had previously been the subject of eczema. Then, again, I consider the description of the capsules is very obscure, and as regards other organs it says: "*Kidneys.*—Both had the character of the large white kidney of Bright." Now Sir William Gairdner will surely agree with me that there is no exception to a law of nature and that the apparent exception must be explained by the discovering other circumstances operating to cause the peculiar result. Now I will not say that the statement I have made as to the nature of Addison's disease constitutes a similar law, but when the same clinical and pathological fact has been observed in thousands of cases without exception during a long series of years I do not think he will charge me with shuffling out of a difficulty when I criticise fully his adverse case and suggest that it is not a clear example of Addison's disease combined with leucoderma. The skin affection is not well described nor is the state of the capsules, and, moreover, the patient was the subject of Bright's disease—another novelty, as I do not remember in other cases to have found any disease but occasional phthisis. I feel sure that so philosophic a man as Sir William Gairdner could not wish me to accept on his authority so poor and obscure a case. Indeed, I should not have troubled the profession with this long communication had not the subject been brought before a society in London by the leading physician in Great Britain.

Grosvenor-street, W.

CARBOHYDRATES AND DISEASE.

BY ERIC PRITCHARD, M.A., M.D. OXON.,
AND
E. H. COLBECK, B.A., M.D. CANTAB., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

THE health of all living organisms is determined by two factors—firstly, by their environment, and secondly, by their inherent vitality, or in other words by their capacity to react to stimuli engendered by that environment. Disease, on the other hand, occurs through failure on the part of the organism to accommodate itself to its surroundings, or, otherwise expressed, because the stimuli are excessive, sub-minimal, or absent. Health or disease are therefore determined by the ratio between the stimuli and the power of the organism to respond. The environment may be considered to include all material that can be classed as food, such as solids, liquids, and gases which contain the chemical elements, or groups of elements, necessary for metabolism, and all those physical stimuli, such as heat, light, &c., which are requisite to set the metabolism in motion.

In a complex multicellular organism such as the human body, under the central administration of the nervous system, accommodation to its surroundings is effected in a manner which, from the standpoint of physiological economy, is most advantageous to the individual as a whole, and through its agency the tissues are mutually enabled to coöperate, and in times of stress to afford reciprocal assistance the one to the other. For instance, should the food-supply fail the coördinated action of the central nervous system will administer to the wants of the more vital organs at the expense of those which subserve less important functions; and, on the other hand, in the presence of excess will effect the disposal of those portions which are unnecessary for the performance of useful functions in a manner least inimical to its general well-being. Through want of more complete knowledge it is impossible to predict in any given case what method or methods the organism will adopt to secure the removal of material which it does not require, but reliance may be placed on its perspicuity to select the path of least physiological resistance and that which in its ultimate operations is most conducive to the maintenance of life. The following is an incomplete summary of the more usual methods on which the organism relies for the disposal of supplies which are not requisite for ordinary physiological purposes. 1. Complete metabolism by the tissues, with removal by the excretory organs (luxus consumption). 2. Loss of appetite, vomiting, diarrhœa, and protective coating of the absorbing surfaces with excess of mucus. 3. The metabolism of the food into incompletely oxidised end products and their removal from the body with more or less detriment to the organism. 4. Growth of normal tissues (hypertrophy), and growth of degenerate tissues (mucoid, amyloid, adepoid), new growths (tumours,

granulations), and leucocytosis. 5. Loss of tissues, discharges (purulent, mucous, serous, &c.), and hæmorrhage. 6. Active metabolism with the production of heat (fevers). 7. Development of kinetic energy, restlessness, spasms (tonic and clonic). 8. Parasites. An attempt to deal with these various methods would necessitate a review of the whole domain of medicine. We propose, therefore, in the present paper to confine ourselves solely to the method which is included in Group 3—that is to say, the disposal of excess of circulating material through more or less incomplete metabolism by the tissues; the removal of the incompletely metabolised end products involves certain pathological consequences, which we propose in due course to examine.

The living proteid molecule (biogen), into which highly complex body all assimilated food is ultimately resolved, undergoes, as an expression of its restless vitality, continuous explosive metabolism, whereby atomic groups, more or less simple in character, are discharged from the primary nucleus and oxidised in the presence of oxygen with the liberation of energy. The cleavage products are replaced by corresponding or equivalent elements from the surrounding nutrient media. Under favourable conditions the atomic groups which are thus shed by the biogen molecule consist partly or chiefly of the ultimate metabolites, carbonic acid, ammonia and water, which for purposes of safe removal from the system are further combined into urea (a practically harmless amido-acid) and carbonates, the bases for which are obtained from the circulating tissue juices and the blood. Such an ideal result is, however, seldom obtained; the biogen molecule from want of a sufficiency of oxygen, or from deficient vitality, parts with larger atomic groups than carbonic acid, ammonia, and water, and such bodies as glucose, lactic acid, glycolic acid, oxybutyric acid, acetic acid, propionic and formic acids may under these circumstances be produced. It is still a matter of uncertainty whether these bodies are cast off in their complete form from the biogen molecule or whether they are partly the result of synthetic processes. In any event the sum total of the energy liberated will depend rather on the nature and size of the atomic groups than on the method of their production.

From a physiological and economic standpoint it is difficult to define precisely whether the cleavage of large atomic groups is a conservative or a wasteful process; but presumably, when there is no demand for energy, as, for instance, in an overfed and underworked individual, it is a conservative method; or otherwise, with the complete combustion which goes hand in hand with the liberation of the final end products, carbonic acid, ammonia, and water, there would be a great development of heat and possibly that condition of hyperpyrexia which is characteristic of the riotous metabolism of certain cases of fever. On the other hand, with the development of useful energy, such as occurs when the voluntary muscles are brought into play, and when the oxygen supply is at its maximum, owing to the harmonious coöperation of the circulatory and respiratory systems, it is probable that the biogen molecule extracts to the uttermost unit the energy supplied by the circulating media, or by its own substance, and by a process of rigid economy parts with atomic groups, such as carbonic acid, ammonia, and water, which in a physiological sense are inert and useless bodies from which no further energy can be extracted. At present, however, we are concerned with the cleavage from the biogen molecule of the larger atomic groups such as occurs with deficiency or absence of oxygen—namely, dextrose, lactic acid, and allied bodies. Dextrose, as is well known, may be removed by the kidney without further change, and its presence in the urine is associated with the condition known as diabetes. With regard, however, to the acid products of metabolism it must be remembered that the circulation refuses to deal with such bodies without neutralisation, and hence their affinities for bases must be satisfied at the expense of the potassium or sodium circulating in the blood or tissue juices, or at the expense of the ammonia, which is concomitantly liberated in the act of metabolism. As a matter of fact, the neutralisation appears mainly to be effected by the substitution, in the acid molecule, of one (NH_2) group for one atom of hydrogen with the formation of amido-acids, such as glycocine (amido-acetic), tyrosin (amido-oxy-phenyl-propionic), leucin (amido-caproic), sarcosin (methyl-amido-acetic), cystin (amido-lactic in which one atom of H is replaced by HS), and uric acid (possibly by various methods). The amido-acids are bodies of the nature of weak bases, and they can be removed by the excretory organs without serious consequences. We cannot here discuss the question whether these amido acids are formed *in situ*, or whether the free acids are neutralised by bases (such as Na, K, NH_3) and subsequently converted elsewhere into amido-acids, but in any event the question does not affect the argument of this paper.

Now, the formation of harmless amido-acids out of noxious free acids creates a demand for nitrogen or ammonia, which the biogen molecule may be unable to spare, for of all elements nitrogen is the most essential to the living proteid molecule; and should it be unable from failure in the supply to obtain enough from outside sources its very existence may be jeopardised; hence, instead of parting with (NH_2) for the neutralisation of the free acids, this radicle may be again taken up into the original biogen molecule to form, in conjunction with material taken from the floating supply of carbohydrate, new protoplasmic substances. The amount of nitrogen which can be spared from the biogen molecule must be dependent on the floating supply of nitrogen containing foods; hence we may sum up the position by saying that the formation of harmless amido-acids out of noxious free acids is dependent on an adequate supply of nitrogen-containing food.

There is now the further case to consider of an excess in the floating reserve of nitrogen-containing elements as compared with those that are nitrogen-free. In such an event there will be no difficulty in supplying (NH_2) radicles for the neutralisation of the acid products, but rather a demand for carbon, or carbon-containing groups, to satisfy the affinities of the free ammonia. Under these circumstances we should expect to find a tendency for the production of bodies in which the relative proportions of carbon and nitrogen were more or less evenly balanced, and, as a matter of fact, that is exactly what takes place when there is an excessive ingestion of nitrogenous food, for the following bodies are found in the urine: uric acid ($C_5H_4N_4O_3$), xanthin ($C_5H_4N_4O_2$), guanin ($C_5H_5N_5O$), creatin ($C_4H_9N_3O_2$), and creatinin ($C_4H_7N_3O$).

We may therefore say that, with defective metabolic and oxidative processes, large atomic groups are shed from the biogen molecule, which contain no nitrogen (free acids, such as lactic and glycolic), a small quantity (amido-acids), or a large quantity (uric acid, guanin, xanthin, &c.), according as the nitrogenous diet compared to the non-nitrogenous is deficient, moderate, or excessive. Hence it follows that, under like conditions of metabolism, an absolute or relative excess of non-nitrogenous material (carbohydrates) as compared with nitrogenous (proteid) will promote the formation of free acids such as lactic acid, &c., which after neutralisation will be set free in the circulation.

The group of symptoms associated with the defective metabolism of nitrogen-containing bodies has long been known as gout or lithæmia; the group of symptoms associated with the defective metabolism of non-nitrogenous substances has been dignified by no special title, except in the extreme cases of glycosuria and diabetes. It seems, however, hardly logical to suppose that an organism which is phylogenetically to a large extent carnivorous should be the victim of symptoms and diseases which are exclusively due to the defective metabolism of food by nature intended for its consumption, and that it should be immune from symptoms, however much it may trespass on the food domain of the herbivora.

We propose now to investigate the symptoms which may arise through the defective metabolism of non-nitrogenous material and to take up the history of the cleavage products from the point at which we left them—namely, waiting for neutralisation and removal at the seat of production. Now it is quite clear that if these bodies are not neutralised by ammonia to form amido-acids, or salts of ammonium, they cannot with physiological safety be removed in the condition of free acids; hence as expeditiously as possible they seize hold of such bases as sodium or potassium from the circulating media and satisfy their affinities at the expense of neutral or alkaline salts. Thus neutralised they can enter the circulation, which is itself reduced in alkalinity, in direct proportion to the amount of bases taken up by the acids. After they have effected an entrance into the circulation these neutral bodies can travel here and there until they meet with suitable conditions for their removal. We propose to take the lactates as representing a type of the various salts, which we have shown are a sequence

of excessive carbohydrate metabolism, since it is impossible to follow each in its more or less similar path of excretion.

The kidney, which is *par excellence* the excretory organ of nitrogenous refuse, does not appear to play any important part in the removal of lactates from the system, for they are seldom found in the urine, although the blood normally contains an appreciable, and at times an excessive percentage. Active glands, such as the liver and spleen, and those of the skin and mucous membranes, are probably the situations in which these products are most effectively dealt with. The skin is particularly active when the muscles are contributing a large proportion of free acids, and at times (rheumatic fever) free lactic acid has been detected in the sweat. Both in this situation and elsewhere, when metabolism is active and the oxygen supply is abundant, the lactates are oxidised to carbonic acid and water, and at the lung surface with a copious secretion of mucus various representatives of the series are found in the condition of free acids. Lactic acid is so frequently detected in the gastric juice that it is reasonable to suppose that its origin is the blood stream, and not decomposing ingesta. Such, then, are the normal methods whereby the excretory processes keep pace with the supply. Nevertheless, should any important excretory agency, as, for instance, the skin, be thrown out of action, and fail to take its share in the process of elimination there will be a proportionate increase of strain on those organs which remain to do the work. The more slowly lactates are burnt off the greater will be the accumulation in the circulation and the lower the alkalinity of the blood and tissue juices; free acids will with difficulty be neutralised, and the strain on all internal organs will become increasingly severe as the vicious circle of events extends more and more widely. Under such conditions signs of breakdown or failure may be evidenced in those organs or tissues which are functionally least able to meet the difficulties. Fibrous tissues may become inflamed and mucous surfaces hyperæmic and catarrhal. The system in its efforts to rid itself of potential sources of dangerous metabolites may hastily improvise and cast off in their entirety large quantities of emasculated protoplasm, such as mucin, which is a hybrid proteid containing a large proportion of carbohydrate. In this connexion it is deserving of consideration whether iodine and iodides, owing to their capacity for bringing mucin and mucinoid bodies into a state of solubility in the system, may not have important bearings on the treatment of such diseases (myxœdema, &c.) as may be due to the clogging of the tissues by this compound carbohydrate. In any case there is ample clinical evidence to show that iodine and its salts act as powerful eliminants.

For purposes of illustration we shall now take the hypothetical case of an organism, such as the human body, hampered with excess of carbohydrates—a condition which we propose to call "glycosachthæmia" [γλυκύς (sweet), σακτός (crammed), and αἷμα (blood)]—and follow in detail the means that will be employed to get rid of this superfluity of food, and the symptoms that will be produced in the process of its removal. For the sake of convenience we propose to take first the case of young and growing tissues, since, under these conditions, vitality will be at its maximum, and we should expect, therefore, that the difficulties of dealing with an excess of food would be most effectually overcome. We should be prepared to find that an infant, given opportunities of absorbing an excess of carbohydrates from the alimentary tract, would, after satisfying the present needs of growth, activity, and heat production, first store the surplus in the liver and other tissues in the form of a reserve material (glycogen). So soon as storage in this direction has reached its physiological limit the excess of circulating carbohydrate would be laid up in the form of a more or less degenerate tissue (such as fat), or would be excreted after complete or incomplete metabolism. The more nearly the physiological limit of fat deposition is approached the greater would be the amount of circulating carbohydrate, and hence the larger would be the sum total of the end or intermediate products derived from its metabolism. We have previously shown that with deficiency in the supply of oxygen (determined by respiratory, circulatory, and hygienic conditions) there is an increase in the proportion of the intermediate end products (in the form of lactic acid, glycolic acid, &c.) as opposed to normal end products, and *ceteris paribus* with a deficiency of NH_3 (consequent on an insufficient supply of floating proteid) there is an increase in the proportion of these products (in the form of free acids) let loose in the circulation. In an infant, therefore, who is absorbing a large excess of carbohydrates (a process that is facilitated by the solubility of these substances), and in the absence of an adequate supply of oxygen, as well as of proteid (proteid is not readily digested and absorbed by infants), we should expect to find an excess of lactic acid (in the form of lactates) and other acids (in the form of salts) in the system. Moreover, if this excess of lactic acid, &c., be admitted we should expect to find evidence of some attempt on the part of the organism to get rid of it. We should anticipate, therefore, hyperæmia and enlargement of the liver and presumably of the spleen. The skin should show evidence of activity in the form of free perspiration; and should this large and important metabolic surface be thrown out of action (by chill, &c.) we should be prepared to find that a more severe strain is thrown on the other tissues which have been coöperating in the oxidation and elimination of the end products of the carbohydrate metabolism. The mucous membranes would show signs of strain by excessive hyperæmia and mucous secretion, and this would be shown clinically by attacks of bronchitis, pharyngitis, tonsillitis, enteritis, colitis, &c. The liver and spleen would exhibit additional hyperæmia and enlargement. The epiphyses of bone, centres of enormous protoplasmic activity in infancy, would become hyperæmic, and the thymus and lymph glands might share in the general increase of vicarious metabolism. When the increase of excretory activity, as evidenced by the hyperæmia of the tissues which we have mentioned, with the coöperation of a deficient supply of oxygen, fails to keep pace with the supply of the circulating end and intermediate products of carbohydrate metabolism, signs of irritation should be demonstrable in the nervous system in the shape of irritability, restlessness, and convulsions, &c. The muscular system should be inactive and flabby from what is tantamount to the condition produced by fatigue. Fever would be present from excessive metabolism, and those micro-organisms which live upon saccharine substances might find a nidus on the free mucous surfaces (thrush). So far as the fibrous tissues are concerned we should expect some hyperæmia which in the young and growing condition of these structures would be sufficient to enable them to cope with the local difficulties of metabolism, and these, by nervous coördination, would not be of a severe kind. As the glycosachthæmic infant in due course develops into the child, with the evolution of the muscles of locomotion and the concomitant stimuli to the circulatory and respiratory systems, which this change engenders, we should expect to find evidence of a general abatement of the symptoms. At the same time the gross improvement must be somewhat discounted by the general but gradual fall in protoplasmic activity, which throughout the body bears, roughly speaking, an inverse ratio to the age of the individual. In consequence of the defective ossification of the skeletal system which has been brought about by the continued hyperæmia of the active epiphyses (compare Kassowitz's experiments) with lowered alkalinity, and possibly occasional acidity of the surrounding tissue juices, we should expect to find gross modifications in the morphological structure of the osseous tissues in accordance with the mechanical strain exerted upon them by the muscles and body weight. Furthermore, we should expect to get enlargement of the epiphysial ends of the bones. For similar reasons the teeth will late assume that degree of calcification which is necessary for their irruption through the gums and the permanent teeth will show structural modification and may eventually become carious. The fibrous structures, owing to the proliferation of cells which is the physiological sequence of hyper-nutrition and minimal irritation during the active period of their growth, will show signs of laxness and stretching. The joints will be inadequately supported and later there may be signs of fibrosis where growth is almost at a standstill, where the circulation is most feeble, and where there is exposure to pressure or injury (fibrous nodules in the neighbourhood of bones and joints, nodules in the endocardium, and cardiac valves). The capsule of the eyeball and the suspensory ligament would share in the general laxity of the fibrous structures, and herein may lie the explanation of the myopia so often observed in rickety and unhealthy children. The connective tissue of mucous membranes long subject to catarrh may

show evidence of extensive thickening (adenoids, &c.). The nervous system may give way under the long-continued strain, and choreic symptoms, consequent on cerebral irritation, may develop. Moreover, the fibrous lining of the cranial cavity and membranous envelopes of the brain may, along with other fibrous structures, show signs of undue irritation (meningitis). During the early period of childhood chill to the integuments will intensify the symptoms due to the irritation of internal organs and develop acute catarrhs and fevers. As adolescence is reached and passed with concomitant cessation of active growth, the tissues will be less able to deal with the excessive nutriment which is the characteristic feature of the glycosachthæmic condition. Unless, therefore, the muscular system comes into active coöperation with the other excretory organs those tissues will suffer which are least able to cope with the excessive supply of nutriment and the intermediate end products of partial carbohydrate metabolism. We should now expect the fibrous tissues to give early evidence of their inability to deal effectively with these imperfect metabolites. Minimal irritation, which in the case of their embryonic, or young and growing antecedents produced proliferation of cells and increase of growth, now necessitates the adventitious assistance of leucocytes. By positive chemotaxis the migration of white cells may be determined, or, in other words, inflammation produced. Chill will now produce the symptoms of acute inflammation of the fibrous tissues of the joints, endocardium, and other parts, with the development of high temperature. Moreover, there seems no reason why the pyrexia which arises under these circumstances and the vicious habits of metabolism thus engendered should not continue until the combustion of the stored-up carbohydrate material is complete and the end products eliminated from the system. Furthermore, the duration of the fever cannot be measured by the period requisite to get rid of the carbohydrate material only, since the proteid and hydrocarbon foodstuffs (both floating and fixed) must of necessity share in the oxidative processes and thus by saving carbohydrate metabolism prolong the course of the fever. Moreover, in accordance with the recognised dietetic treatment of fever, additional fuel for combustion is provided with unfailing regularity. Again, under the circumstances which we are considering we should expect that occasionally, as the result of long-continued strain or diminished vitality, the synthetic processes connected with catabolic metabolism would fail and the consequent riotous metabolism of the biogen molecule would give rise to hyperpyrexia. The more active the skin and mucous membranes the less will be the intensity of the symptoms due to hyperæmia or inflammation of other tissues. At the same time the skin and mucous membranes under continued stress of work will ultimately show signs of wear and tear. The skin will be hyperæmic and will show a tendency to the development of eruptions—i.e., erythema, purpura, eczema, psoriasis, acne, &c. The respiratory mucous membrane will give evidence of catarrhs (tonsillitis, bronchitis, asthma, pneumonia, &c.). The tongue will be furred and the stomach and intestines possibly coated with excess of mucus. The fibrous tissues of the joints, endocardium, &c., will become acutely inflamed, but we should expect that the endocardial tissues would suffer less than other fibrous structures, inasmuch as they are continuously bathed by a more or less alkaline fluid (the blood). The muscles will give evidence of debility or "fatigue." Hollow viscera will become dilated (the heart, &c.) and the skeletal muscles toneless and weak. The nervous system may develop signs of instability (neurasthenia or even neuritis, epilepsy, &c.). The more chronic manifestations of the glycosachthæmic condition in adult life would be skin eruptions in the form of psoriasis, erythema, acne, eczema, &c. Inflammatory conditions of the respiratory system of a sub-acute type, such as tonsillitis, bronchitis, asthma, &c., would be of common occurrence. We should also expect chronic inflammatory conditions of the fibrous tissues surrounding the joints and other parts. In debilitated conditions glycosuria might possibly occur. With the advent of late middle life and old age when metabolic processes become less and less active, and when in consequence of the hampered condition of the respiratory and circulatory systems oxygen with difficulty reaches the tissues, the biogen molecule may cast off even larger atomic groupings than lactic, glycolic, and similar acids. Under these circumstances glucose and acetone may be shed in their entirety. A strain is doubtless thrown upon the kidneys, but the organism may be temporarily spared for the continuance of a useful existence. Owing to the inhibition of oxidative and catabolic processes the temperature would be low until such time as, in the general break-up of the tissues, chemical affinities are loosened with the liberation of energy in the form of heat and the ultimate destruction of the organism as a corporate body. Before this stage is reached the general interference with nutrition would provoke a more or less widespread degeneration of the tissues, and the possible growth in various organs of micro-organisms which thrive in a saccharine medium.

The hypothetical pictures that we have drawn of the general condition of glycosachthæmia during the various stages of infancy, childhood, middle life, and old age are practically those of the clinical conditions known as rickets, the rheumatic state of childhood, rheumatism, and diabetes; and although, viewing the matter from the standpoint of established facts, it is not always easy to prove that the one condition is an antecedent of the others, nevertheless there is a certain amount of evidence to show that such an assumption is reasonable, and the evidence that we have so far obtained is entirely in harmony with this view. In the case of rickets it is nearly always easy to prove that there has been a great excess of carbohydrate food, and although in the case of rheumatism and diabetes it is easy enough to shelter oneself behind a plea of relative excess, on inquiry it is usually possible to obtain evidence of carbohydrate indulgence which in many cases may be termed "gross." Rheumatic subjects, at any rate before the emaciating effects of defective circulation come into operation, are mostly well-nourished and often fat; and they are liable to exacerbations of the symptoms at times of forced inactivity, after periods of healthy energetic life, and when a good appetite remains to them, although its legitimate stimuli may be in abeyance. Soldiers proceeding on sea voyages, vigorous from regular exercise, are especially liable to attacks of rheumatism and pneumonia, and Londoners returning to town after their holidays nearly always contract a "cold." Athletes when they go out of training, unless they can physiologically protect themselves by a rapid deposition of fat, are liable to various ailments, such as may be readily explained by a condition of glycosachthæmia. Conversely, starving people rarely contract diseases of this type, and most striking evidence can be drawn from the present war in South Africa; in Ladysmith and Mafeking the semi-starved defenders were exposed in trenches half full of water to the sudden changes of temperature which characterise the autumn and winter months, yet rheumatism was conspicuous by its absence, especially towards the end of the period of siege when one may suppose their tissues were depleted of all carbohydrate reserve. In this respect the experiments by Araki[1] and Irisawa[2] in Hoppe Seyler's laboratory are of the utmost importance, for they have shown that in the case of animals lactic acid is produced in excess when the oxygen supply is curtailed, and that when the supply is minimal even dextrose may appear in the urine; but in the case of starving animals, however much the oxygen supply is reduced, no dextrose appears in the urine nor is the percentage of lactic acid in the blood increased.

Further evidence can be adduced from the field of therapeutics, for those measures which are known to be effective in the case of rickets, rheumatism, and diabetes are those which would be rationally prescribed for persons suffering from saturation with carbohydrates. Milk diet, or, in other words, semi-carbohydrate starvation, is the universal panacea for rickets and rheumatism, and in diabetes there is no more efficacious treatment. In chronic rheumatism our own experience, which is amply confirmed by others, goes to show that the effects of the "Salisbury treatment" (total carbohydrate starvation) are sometimes almost sensational in their efficacy. All those drugs which encourage the activity of the skin are of value in rickets, rheumatism, and diabetes. Purgatives by the rapid removal of ingested food are recognised as essential adjuncts to all lines of treatment, and alkalies hold a time-honoured position in the treatment of all these complaints.

[1] Zeitschrift für Physiologische Chemie, vol. xv., p. 335, and vol. xvi., p. 201.
[2] Ibid., vol. xvii., p. 340.

By neutralising the acid products and thus assisting in their elimination their action is in harmony with our view. Salicylates above all drugs are specifics of rheumatism and are said to be useful in diabetes. We firmly believe that they are strongly indicated in rickets, though as yet we have had few opportunities of estimating their value. On our hypothesis they are of value in the treatment of rheumatism because they combine with that atomic group which in the break-up of the biogen molecule is a fore stage of lactic acid, glycocene, and perhaps other bodies.[3]

$$C_6H_4\begin{cases}OH\\COOH\end{cases} + CH_2\begin{cases}OH\\CN\end{cases} = \begin{matrix}C_6H_4\\CH_2\end{matrix}\begin{cases}OH\\CNOH\\COOH\end{cases}$$

Salicylic acid. Methene cyan-alcohol. Salicyluric acid.

They are of less value in diabetes because the entire dextrose molecule is separated from the biogen molecule and requires no neutralisation. They are of value in such cases by preventing the formation of certain by-products which are usually found in company with dextrose in the urine. With regard to the use of salicylates it must be remembered that the maximum effect is only obtained when they are given in large doses; large doses would obviously be required if our view is correct.

In the attempt which we have made to establish a causal connexion between excessive carbohydrate ingestion and the incidence of disease we have avoided for the most part making an appeal to the evidence derived from clinical experience. Our reason for this obvious omission is that our complete recognition of the essential features which underlie the theory which we have advanced, is of such recent growth that we have not yet had time to accumulate clinical testimony in sufficient amount to carry weight in support of our contention. Nevertheless, the observations which we have thus far been enabled to make on the clinical side of the subject are in complete harmony with the conditions which on theoretical grounds we should expect to obtain. Furthermore, we may point to the clinical experience of such keen and original observers as Rabagliati and Keith which lends strong support to the views which we have enunciated. Rabagliati gives convincing proofs of the evils which may be wrought by the over-ingestion of carbohydrates, and Keith, in his advocacy of the therapeutic efficacy of starvation (so-called) in the treatment of disease, supplies indirect evidence in support of our contentions.

Although we have endeavoured to clearly distinguish between the condition known as lithæmia or gout, and the one we have termed glycosachthæmia, we have not attempted to indicate the effects which might be produced by the possible action and interaction of their respective metabolites. That such reaction and inter-action between the metabolites of these conditions does take place there can be little doubt with the production of disease, which in its pathological significance combines in varying degrees the features common to lithæmia on the one hand and glycosachthæmia on the other.

Although it cannot be asserted that we have advanced any convincing proof of the existence of the condition which we have termed glycosachthæmia we venture to hope that the evidence which we have brought forward will serve to stimulate other observers to investigate the subject. For our own part we feel convinced that further inquiry will serve to strengthen the views which we have advanced in this paper and to establish the theory of glycosachthæmia on a firm foundation of fact.

[3] P. W. Latham: Croonian Lectures, 1886.

BRENTRY HOME FOR INEBRIATES.—At the meeting of the Gloucestershire County Council held on July 10th it was reported that this home was now contributed to by 23 county and borough councils to the extent of £25,000. This involved a provision of 104 beds for women and 73 for men. When their arrangements were completed there would be 183 beds against the required 177. Up to the present 58 cases had been admitted.

CARDIFF INFIRMARY.—At a meeting of the Executive Committee of the Cardiff Infirmary, held on July 17th, it was decided to recommend to the governors of that institution that the appointment of general superintendent be vested in the resident medical officer and that the duties of the secretary be solely confined to secretarial and financial work.

THE WAR IN SOUTH AFRICA: JOTTINGS IN BURGHERSDORP.[1]

BY HERBERT CAIGER, M.B. LOND., F.R.C.S. ENG.

I WAS in Burghersdorp during the Boer occupation of the town and saw a number of the wounded after the battle of Stormberg.

THE BATTLE AT STORMBERG, DEC. 10TH, 1899.

At this battle General Gatacre's forces met with a serious defeat, losing 650 men as prisoners. About 70 of these prisoners were wounded and they passed through Burghersdorp on their way to Bloemfontein. 24 of them were kept at Burghersdorp for a month or more in an extemporised hospital arranged by the British residents at the request of the Free State authorities. Many of the wounds were trifling in nature, and 18 of these men marched 20 miles from Stormberg to Burghersdorp on the day following the battle and the remainder were brought to Burghersdorp by ox wagons at different dates. Half of these would be fit for service within a month. The transport by ox wagon was bitterly complained of, the jolting over the rough roads having caused much aggravation of painful wounds. One man's chest was blistered by the heat of the sun, the wagons being uncovered. The wounded officers were brought to Burghersdorp in covered carts. The wounded men spoke well of the treatment which they had received from their Dutch captors at Stormberg.

On the battlefield the men were attended by two medical men who went out from Burghersdorp on the chance of being of some use. The men were anxious to know whether they would be attended by English practitioners, and they were very pleased to hear that there were none but English medical men in Burghersdorp. The nursing in the hospital was done by English (male) residents and refugees from the Republics. The school building was used for the hospital and came to be used more or less as a club as most of the Englishmen of the place met there, as it was almost the only place, with the exception of the private houses, where it was considered safe to speak freely. The amateur male nurses worked well in watches of three hours at a time. There were but few cases which required skilled nursing. Lord Roberts subsequently wrote to the mayor of the town thanking the British residents of Burghersdorp for all that had been done for the wounded and prisoners who passed through the town.

An interesting cerebral case.—A private who had been shot through the head completely lost his memory of events preceding the battle. There was no paralysis. A Mauser bullet had entered at the outer end of the left eyebrow and had passed out on a level with the occipital protuberance about an inch to the left. When seen 10 days after the wound of entrance was perfectly healed and difficult to see. The exit wound was still covered by a small scab. He had a dazed look, and when asked questions would reply, "I cannot rightly mind that, sir." He remembered one thing in his past life. He said that he was married and that his wife was married too. This latter statement he is said to have reiterated again and again shortly after the battle. With this exception he remembered nothing of his past history, and did not regain his memory up to the time when he left for Bloemfontein, 40 days after the injury. His memory for events after the battle seemed to be fairly good.

Nerve injuries.—The men who seemed to suffer most and longest were those who had wounds involving nerve trunks. I had three of these patients under my care for several weeks, and it was sad to see the agonies they suffered. Morphia in large doses was the only thing that gave any relief to the pain. A sergeant had an oblique flesh wound of the thigh which healed by first intention, but pain came on about 14 days after the injury. He had had severe hæmorrhage immediately after receiving the wound which he stopped by means of an improvised tourniquet which was left on for 36 hours. Possibly this may have had something to do with the causation of the pain. The pain was felt in the outer side of the leg below the knee and in the toes. There was no evidence of any paralysis, and, indeed, the man had been up and about for several days before the pain

[1] An abstract of Dr. Herbert Caiger's article which appears in the August number of the Phonographic Record of Clinical Teaching and Medical Science.

came on. The pains continued for a long time and were still very severe when he wrote from Cape Town in April. No operation was done. In the two other cases there was marked paralysis and wasting of muscles. In one some cord of the brachial plexus was probably injured, and in the other the median and ulnar nerves were injured by a wound about the middle of the arm. In both these cases the pain came on on the day of the battle and was intense from the first. The operation in one of the cases was performed at Bloemfontein, and with relief to the pain.

Fatal mental disease following severe wounds.—An officer was wounded by shrapnel fired by our own artillery. The nature of the wounds necessitated amputation of one leg and some of the fingers of each hand; he had also several wounds of the trunk, and for some time was not expected to live. He recovered so far, however, that he was removed to the hospital at Burghersdorp some weeks after the battle. The wounds healed completely, but he continually brooded over the disaster at Stormberg, which troubled him much more than the mutilation he had suffered from, and at length he died from acute mania. Shortly before his death the Free State Government had granted his release in return for a wounded commandant who had lost one of his legs after the battle of Elandslaagte and was released by Lord Roberts. The officer was dying when the news of his release arrived and he could not be moved. His body was taken back to the British lines where he was buried by his comrades with military honours. This was the only death which occurred among the wounded prisoners who were brought back to Burghersdorp from the battle of Stormberg.

Septic cases.—The proportion of septic cases to the whole number of wounded was small. The worst case was a wound involving the mouth. The bullet entered at the angle of the mouth and passed backwards and slightly downwards, emerging at the back of the neck about an inch from the middle line. It had ploughed along the inside of the cheek, knocked out a lower molar, broken some fragments off the lower maxilla (which came away at a later date), and perforated the posterior wall of the pharynx. This man's mouth was in such a foul condition when he arrived at Burghersdorp, four days after the battle, that he had to be placed in a separate ward. After the separation of some very foul sloughs the mouth wounds healed, but he then developed a deep abscess in the sub-maxillary region. This was opened just before he left for Bloemfontein, nearly six weeks after the battle. Many of the wounds were inflicted by Martini-Henry bullets, and, of course, the wounds were more severe than those caused by Mauser bullets and a greater number of them suppurated. Many of the shrapnel wounds, on the other hand, remained quite aseptic. A compound fracture of the lower end of the ulna from a shrapnel bullet, which was under my care, did perfectly well.

PHYSIQUE OF THE BOERS.

I have had the experience of six years' practice among the Boers of the Jacobsdal and Burghersdorp districts, and am of opinion that in comparing the Boers with Tommy Atkins the advantage is on the side of Tommy. The Boers are more used to out-of-door life and irregular meals, they suffer less from syphilis, and they are more independent and more accustomed to act on their own responsibility, but, on the other hand, although the average age might not be very different, the Boer ranks include many below as well as above the age limits which obtain in the British army. I have seen a boy of 11 years of age brought by his father on commando from the Free State. There were many under 16 and 17 years of age, and many over 40 years of age. Men suffering from organic disease, such as of the heart, which would unfit them for any unusual fatigue went on commando. The Boers who were commandeered in the district in which I lived were not subjected to any medical examination to prove their fitness for service, and in one case I gave a certificate of unfitness for service to a man with phthisis partially arrested but still with extensive signs in one lung, but the certificate was disregarded by the officials and the man was sent to the front, where he took part in a reconnaissance which took up 22 hours and completely knocked him up. A few days later the man obtained another certificate from a Free State surgeon, for which he paid a guinea, and was then allowed to return home.

OVERWORKED TOMMIES.

There can be little doubt that the cause of the disaster at Stormberg was bad generalship. The men were tired out before the fight began. During the retreat, after the battle, many of the men are said to have dropped down and fallen asleep from sheer fatigue. It is said that many who were taken prisoners there were found lying fast asleep in their trenches. The prisoners told us that they had marched all the night before the battle and had had very little sleep during the preceding night. Notwithstanding this, and the fact that all the advantages of position were with the enemy, some of the Boers themselves admitted that our men had made a good fight. Had it not been for the loss of their leaders at a critical moment through the mistake of our own artillery, many think that the result of the battle would have been very different. Of course, on special occasions men must have severe strain put on their powers of endurance, but there is a limit, and from all I have heard this limit was much exceeded in the operations ending in the battle of Stormberg. Further, I have heard that it was the practice of the officer commanding a regiment recently stationed in this neighbourhood very frequently in the mornings to take the men a long march to the top of some stiff hill before breakfast, bringing them back so fatigued that when breakfast time arrived many of them had no appetite for it. This sort of thing would be well enough once in a way, but to make a frequent practice of over-fatiguing the men before they have had any food would hardly improve their fitness for service.

SANITARY ARRANGEMENTS—BOER AND ENGLISH.

The absence of proper sanitary regulations in the Boer laager at Stormberg was a disgrace to any nation that pretended to civilisation. Dead animals and the remains of slaughtered sheep and oxen lying about unburied caused a terrible stench. In the offices and waiting-rooms at the railway stations all sorts of refuse were allowed to accumulate, and in some instances dead horses were left behind inside the railway offices. There was a good deal of sickness and at least two fatal cases of enteric fever occurred among the Boer forces at Stormberg. At the same time the sanitary arrangements for our troops who were stationed in, or who passed through, the district were not free from reproach. At the Bethulie Bridge camp the stench along the river bank and for some considerable distance from the river was bad. The same thing was noticeable at Sterkstroom camp. At Burghersdorp station at the time when large numbers of troops were passing through, according to the stationmaster on more than one morning the station yard was in a disgusting state. These things ought not to be. Proper sanitary arrangements for large bodies of troops in transit may be difficult to arrange, but surely some steps could be devised which would obviate such a state of affairs as that just mentioned. With reference to the camps there is less excuse; either the sanitary arrangements must have been at fault, or the discipline for their proper enforcement must have been lax. Many of the cases of typhoid fever which have occurred among our troops lately may have been unavoidable—for instance, in the case of the men surrounding Cronje's laager at Paardeberg—but other cases have probably occurred which might have been avoided by more attention to sanitary arrangements and stricter discipline in this matter. At Bethulie Bridge the water from the Orange river was used for drinking purposes. My opportunities for observations regarding military sanitary arrangements have been confined to this district. It is to be hoped that elsewhere matters were better regulated.

THE OBJECT OF THE WAR.

From the talk of the farmers and Free Staters there is no doubt that the object of this war was aggressive not defensive—to get rid of English authority and government from the whole of South Africa. At a Bond meeting held in this district about a year ago one speaker said that he prayed that the day might come when the whole of Africanderdom would be free from the foreign yoke. No one made any protest against this statement. One of the Free State commandants addressing a number of recruits on the market square of Burghersdorp last November said, "We have come to assist you in throwing off the foreign yoke." Very little was heard of saving the independence of the Republics, but the common talk among the farmers was of "cleaning the land" or "driving the British into the sea." The Dutch farmers were urged to join in a triumphal progress through the colony, in which no serious opposition was expected from any British troops. They were told by Free Staters that it would be only a matter of a few weeks and that in

every district which they reached they would be joined by large numbers of Africanders, and they talked of drinking champagne in Cape Town over their conquest within a month. With the great majority of the burghers their confidence of success was absolute. One burgher said that after they had killed all the English soldiers General Joubert would hire a ship and they would send him and his men to England to fetch "Victoria" out of her house and bring her to the jail at Pretoria.

BOER NEWS—OFFICIAL AND OTHERWISE.

An information commission at Bloemfontein sent out official telegrams recording the progress of the war. On the whole the news was reliable, but in one point these official telegrams consistently perverted the truth. They grossly exaggerated the casualties on the British and always understated those on the Republican side. For instance, after Belmont the official telegram stated the Boer losses as ten killed and 40 wounded, and said that the British losses were estimated at far in excess of 2000. In this instance they seem to have divided their actual losses in killed by ten whereas they multiplied ours by about the same figure. Current gossip exaggerated the British casualties still further. We were said to have lost 7000 or more men at Belmont. At Magersfontein we were reported to have lost 9000 killed, and the blood had run four feet deep. The man who brought this report said that he had it from the lips of a minister of the Dutch Church so that it must be true. Our losses were heavy but when they were exaggerated to this extent it is not to be wondered at that the Dutch farmers imagined that there was little chance of British success in this war. When the news of the naval brigade fighting under Methuen reached them it was said that England evidently had no more soldiers to send and was sending sailors to fight now.

CONCLUSION.

In justice to the Free State officials it is only fair to state that in Burghersdorp the English residents were on the whole very fairly treated. Among the Free State burghers drunkenness was certainly less in evidence than with our own men. The liquor regulations during the Boer occupation were more stringent. As soon as the town was re-occupied the difference in this respect was painfully brought to our notice.

TACHYCARDIA FOLLOWING ENTERIC FEVER.

BY CHARLES BURLAND, M.D. BRUX., F.R.G.S.,
LATE PRESIDENT OF THE BRUSSELS GRADUATES' ASSOCIATION, PRINCIPAL MEDICAL OFFICER TO H.M. HOSPITAL TRANSPORT, NO. 77.

THE subjoined synopsis of cases of enteric fever and dysentery which recently came under my care as medical officer in charge of one of the hospital transports from South Africa to Southampton, and the preponderance of typhoid fever cases will, I trust, plead my excuse for submitting a somewhat extensive and varied personal experience to the readers of THE LANCET.

There were under my care, out of a total of 632 patients, 265 cases of enteric fever and 82 cases of dysentery. All these patients had been discharged direct from hospital to the steamer in the early stages of convalescence, and one pronounced symptom which was present in the majority of cases greatly impressed me; this was an unusually rapid, small, and compressible pulse peculiar to the enteric fever cases, associated with signs of early cardiac dilatation. For purposes of investigation I enlisted the help of Surgeon-Captain Fenwick of the New Zealand Mounted Infantry and we made a careful and exhaustive examination of 300 cases of enteric and dysenteric convalescents. In every case in which the pulse-rate exceeded 90 the heart was examined binaurally by Surgeon-Captain Fenwick and myself.

Roughly gauging the severity of the illness by the past military history, as regards work and hardships; having regard, in the case of civilian soldiers, to the sufferer's previous occupation and habitual mode of life; calculating the number of weeks which were spent in hospital; and after prolonged and searching individual examination we obtained the following results. The lowest pulse-rate in the military enteric fever cases was 72 per minute and the highest was 150, an average exactly of 98·25. In 56 per cent. the pulse-rate was 80; in 25 per cent. it was 95; in 10 per cent. it was 100; in 5 per cent. it was 110; and in 4 per cent. it was from 120 to 140.

In investigating 50 cases of dysentery we found an average pulse-rate which varied from 72 to 80. The number of hearts examined was 75 per cent. of the total cases. In five cases valvular disease was present and these were excluded. In 25 per cent. of those examined the apex beat was displaced. In 50 per cent. the impulse was diffused, undulatory, and difficult to localise. A feeble first sound and a sharp and accentuated second sound were frequent features, while in a small percentage of cases undoubted dilatation was present.

The following is an interesting case illustrating the points which I wish to bring forward.

A Scots Guardsman, aged 30 years, a man of superb physique, came on board apparently convalescent. Seven days later he collapsed suddenly on deck and was at once placed in his cot. His condition was so serious that I summoned Dr. Atherstone, assistant medical officer, in early consultation. The pulse at this time was 150, and was thin and compressible. Dyspnœa was distressing, the face was pinched, cold, and markedly blanched, while the body was covered with a clammy sweat. The patient complained of acute abdominal pain and the abdomen was tympanitic but not rigid. The pain on deep-seated epigastric pressure was excruciating. I was inclined to regard the case as one of acute cardiac failure, but as there seemed to be a possibility of perforation—these men take every opportunity of eating forbidden food surreptitiously—I asked Surgeon-Captain Fenwick for the benefit of his surgical experience. It was decided to continue the medical treatment. The patient rallied slightly under a very free exhibition of stimulants, but expired 36 hours after his first seizure.

The post-mortem examination, one hour after death, revealed enlargement of the heart with dilatation of the left ventricle. The valves were healthy; the lungs were deeply congested; the abdomen was healthy; there was no perforation; and the cardiac walls, left ventricle especially, were very thin. The finger readily perforated the heart substance on slight pressure.

My experience of typhoid fever had hitherto, I confess, led me to coincide with the views of the recognised English and American authorities on the slow pulse usually found in convalescent patients from this disease, and it was certainly startling to find that of all my convalescents not 2 per cent. had a pulse-rate below 70.

How can this rapid pulse-rate in military patients be accounted for? Surgeon-Captain Fenwick adduced a theory of sympathetic irritation which I could not bring myself to accept, but which nevertheless recalled cases of physical exhaustion and cardiac disturbance with rapid, feeble pulse due to hardship and privation, which I, in common with other travellers, have found associated with mountain sickness upon the Himalayas, similarly with well-known phenomena which occasionally prevail in the collapse attending persistent and aggravated sea-sickness. It must, of course, be remembered that in the enteric fever cases which I now portray the majority of the patients had been grievously debilitated by fatiguing marches and poor and irregular feeding—thus engendering a state of cardiac irritation which the subsequent typhoid fever had not conduced to allay. May we not assume that the symptoms described are the natural and inevitable sequelæ of such conditions?

I have selected the following cases of relapsing enteric fever and dysentery, my object being to show that although the dysenteric attacks equalled the enteric in severity, yet in the former disease the pulse-rate was markedly slower.

CASE 1.—An officer, aged 27 years, who went through the whole siege of Kimberley, where he distinguished himself by his unceasing energy, had an attack of typhoid fever and was in due course invalided home. Surgeon-Captain Fenwick, who knew him intimately, stated that he was apparently quite convalescent when discharged from Wynberg Hospital. The patient complained of feeling ill directly he reached the ship and was admitted to hospital treatment at once. After a trying illness, which presented all the features of a severe primary attack but which were unquestionably due to a terribly bad relapse, he suddenly had an attack of cardiac failure on the fifth day of the homeward voyage. He was extremely ill throughout the remainder of the journey

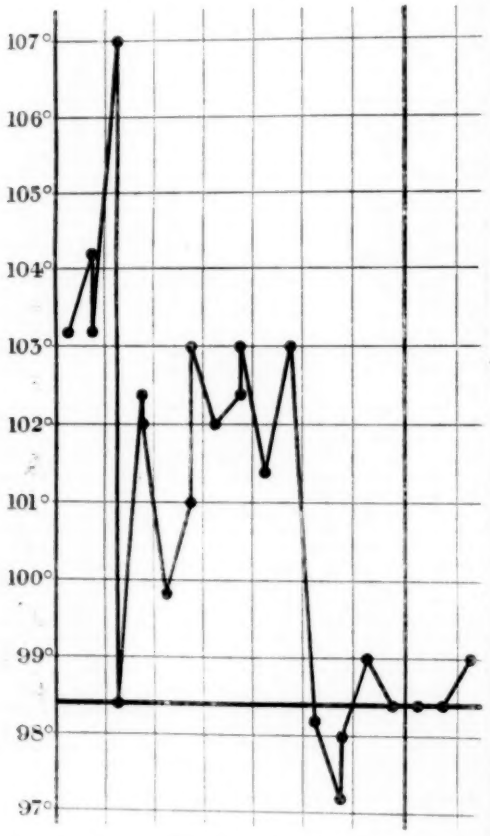
and was eventually despatched by ambulance to Netley Hospital on the arrival of the ship in England.

CASE 2.—A soldier, aged 30 years, had a very severe relapse two days after embarkation. He was much emaciated and was for several days in grave danger. The heart was weak, but the pulse, after the initial rise, was uniformly steady and slow. It will be seen to what a high degree his temperature rose (107° F.).

CASE 3.—A ship's fireman, one of the crew of the transport, had a severe attack of typhoid fever. The pulse was steady and slow and the heart's action was forcible and good.

Case 2 and Case 3 would seem to contradict completely my statements regarding the rapid pulses of my soldier patients, but as a matter of fact the patient in Case 2 had been on garrison duty, with no marching or hardships, while the patient in Case 3 was a ship's fireman with regular hours of duty.

I make no comment on the cases, my only object being



This chart serves to illustrate the severity of some attacks of dysentery. Many writers state that a temperature above 102° F. is unusual, but I have not unfrequently seen the temperature in this disease rise to 104° and over. In this particular case I had a doubt as to the existence of hepatic abscess, but the patient's rapid recovery dispelled this idea.

to show that although the relapses were equally severe, yet a marked difference was noticeable in the cardiac action in the two diseases.

The treatment was simple, consisting of free stimulation with brandy and champagne, while digitalis, carbonate of ammonia, and strychnia were the drugs chiefly relied upon, the latter being administered hypodermically in several extreme cases.

Among the enteric fever cases were four who had undergone antityphoid inoculation. My experience of these does not justify me in saying more than that they appeared to have been mild attacks with an early and uninterrupted convalescence. With regard to the treatment of dysenteric cases I found that doses of ipecacuanha administered by the mouth in the manner I advocated some years ago in your columns,[1] in an article on hæmatemesis, were most effectual, the one point being to soothe the stomach by a small dose of opium, a short time before administering a bolus of ipecacuanha (20 grains) moistened with a few drops of glycerine, all liquids being absolutely prohibited for some hours after the medicine. Cases in which the drug was rejected when given by the mouth were treated by rectal injection.

While regretting that the military exigencies and the ever-increasing demand for hospital accommodation should necessitate such early removal of patients before they are really fit to travel—to which must be in a measure attributed the very serious relapses which have occurred—it must be remembered that as the Equator is approached meteorological and climatic conditions are encountered which are sufficiently trying even to persons in health.

Infinite credit is due to the Royal Army Medical Corps for their unceasing devotion to their patients, and it is in no spirit of criticism upon them that I record these observations.

To Colonel J. F. Supple, R.A.M.C., principal medical officer, Lieutenant-Colonel O'Connor, R.A.M.C., and Major Tatham, I tender my humble tribute of admiration for the excellent arrangements which they made for the embarkation of patients, combining a minimum of fatigue with a maximum of comfort. To these gentlemen, also, we were indebted for our well-organised hospital and excellent staff.

To Captain Sir E. Chichester, Bart., R.N., we all owed much; no suggestion for the benefit of the sick and wounded failed to secure his kind and patient attention and practical coöperation.

In conclusion, I trust that the officers of the Royal Army Medical Corps, whose experience of typhoid fever cases has of late been enormous, will give the profession the benefit of their observation, especially with regard to the points which I have raised.

A FURTHER NOTE ON
THE INFLUENCE OF THE TEMPERATURE OF LIQUID HYDROGEN ON BACTERIA.[2]

BY ALLAN MACFADYEN, M.D. EDIN.,
AND
SYDNEY ROWLAND, M.A.

IN previous communications we have shown that the temperature of liquid air has no appreciable effect upon the vitality of micro-organisms, even when they are exposed to this temperature for one week (about − 190° C.).[3] We have now been able to execute preliminary experiments projected in our last paper as to the effect of a temperature as low as that of liquid hydrogen on bacterial life. As the approximate temperature of the air may be taken as 300° absolute, liquid air as 80° absolute, and hydrogen as 21° absolute, the ratio of these temperatures roughly is respectively as 15 : 4 : 1. In other words, then, the temperature of liquid hydrogen is about one-quarter that of liquid air, just as that of liquid air is about one-quarter of that of the average mean temperature. In subjecting bacteria, therefore, to the temperature of liquid hydrogen we place them under conditions which, in severity of temperature, are as far removed from those of liquid air as are those of liquid air from the condition of the average summer temperature. By the kindness of Professor Dewar the specimens of bacteria were cooled in liquid hydrogen at the Royal Institution. The following organisms were employed: bacillus acidi lactici, bacillus typhosus, bacillus diphtheriæ, proteus vulgaris, bacillus anthracis, bacillus coli communis,

[1] THE LANCET, Oct. 14th, 1893, p. 923.

[2] A paper read before the Royal Society on May 31st, 1900. Communicated by Lord Lister, P.R.S.

[3] Proceedings of the Royal Society, Feb. 1st and April 5th, 1900. THE LANCET, March 24th (p. 849) and April 21st (p. 1130), 1900.

staphylococcus pyogenes aureus, spirillum choleræ, bacillus phosphorescens, bacillus pyocyaneus, a sarcina, and a yeast.

The above organisms in broth culture were sealed in thin glass tubes and introduced directly into liquid hydrogen contained in a vacuum jacketed vessel immersed in liquid air. Under these conditions they were exposed to a temperature of about – 252° C. (21° absolute) for ten hours. At the end of the experiment the tubes were opened and the contents were examined microscopically and by culture. The results were entirely negative as regards any alteration in appearance or in vigour of growth of the micro-organisms. It would appear, therefore, that an exposure of ten hours to a temperature of about – 252° C. has no appreciable effect on the vitality of micro-organisms.

We hope to extend these observations upon the influence of the temperature of liquid hydrogen on vital phenomena and to make them the subject of a future communication, and to discuss their bearing upon problems of vitality.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ACTINOMYCOSIS.

BY EDWARD T. JONES, M.R.C.S. ENG.,
AND
JOHN C. MACKAY, M.D. ST. AND.

THIS case appears to be worth recording because of (1) the uncommonness of the disease and (2) the enormous doses of iodide of potassium taken during treatment. The patient was a male, aged 42 years, who is the driver of a traction-engine used with a threshing-machine. Early in November, 1898, he had an old stump of a tooth removed from the right side of the lower jaw. This was followed by enormous swelling of the tongue accompanied by great pain. This apparently subsided under treatment and he came under our care a month later with a large swelling under the jaw in the anterior triangle, which was rapidly increasing. The skin was very red, thickened, and œdematous; the tongue was bound down and when protruded came out markedly on the right side. At one spot there was a patch of softening, this was incised and was found to contain thick curdy pus loaded with actinomycotic granules (confirmed by the Clinical Research Association). The treatment adopted was to open all places of softening as they appeared, to swab out the cavities with 1 in 3 carbolic solution, and to administer iodide of potassium internally. The dose of the iodide was increased from 30 grains per day to a maximum of four drachms per day in the course of six weeks. The patient never had any unpleasant symptoms from the iodide; in fact he put on flesh. The changes in the discharge and granules due to the iodide as recorded by Fairweather[1] were observed. The disease proved extremely chronic, spreading in the subcutaneous tissue downwards and forwards over the larynx, crossing the middle line. Finally it cleared up and early in March, 1899, the patient was discharged with no further sign of the disease and with nearly all the induration and thickness of the skin gone. Whether the iodide had much to do with the apparent cure it is difficult to say. Indications for treeatment were not easy to find. Veterinary surgeons appear to treat their cases in cattle with enormous doses of iodide with success. Perhaps more radical surgical treatment at the beginning, as recommended by Ransome,[2] would have produced a good result more quickly, but on the other hand it is worth noting that with the exception of one week at the commencement of treatment our patient was able to keep at his work during the whole time.

St. Columb, Cornwall.

[1] Brit. Med. Jour., June 27th, 1896.
[2] Ibid.

NOTE ON THROMBOSIS OF CEREBRAL VEINS OCCURRING IN A CASE OF CHLOROSIS.

BY EDWARD F. M. NEAVE, M.B., CH.B. EDIN.

THROMBOSIS of cerebral veins or sinuses is a very rare complication of chlorosis. Dr. Byrom Bramwell in his book on anæmia states that "thrombosis of the veins of the leg occasionally occurs [in chlorosis], but thrombosis of the cerebral sinuses very rarely." He does not record a single case of the latter. I have not been able to ascertain the frequency of this complication, but judging from the scantiness of the literature on the subject it must certainly be very rare. On consulting Osler's "Practice of Medicine" I find that Brayton Ball has recently reported a case and has collected 10 or 11 others from the literature of the subject. All were in girls with anæmia or chlorosis. Ball's patient was dull and stupid and had vomiting, dilatation of pupils, and double-choked discs. Slight paresis of the left side occurred. In some of the other cases the patients had headache, vomiting, and delirium. In Douglas Powell's case with similar symptoms there was loss of power on the left side.

The diagnosis of cerebral thrombosis is very difficult and in many of the cases it was made only at the necropsy. The symptoms pointing to thrombosis in the cerebral sinuses and veins are described by Sir Dyce Duckworth[1] as follows: "(1) headache, at times very severe, and sometimes plainly localised; (2) vomiting, generally severe; (3) motor symptoms, indicative generally of irritation, either cortical or central—hence tremors, jerking, spasms, and contractures in other parts, usually of one side, ending in paresis or paralysis; (4) drowsiness, delirium, coma; (5) variations in the size of the pupils."

The following case, in which most of the above symptoms were present, seems worthy of record:—

The patient was a married woman, aged 31 years, and she had no children. She complained of breathlessness, palpitation, and weakness. The duration of the illness was indefinite, but she had felt ill for some months and ultimately became so weak that she had to take to her bed. The family history was good. The patient had anæmia when a girl several times, but she always quickly recovered under a course of iron. When I visited her on May 19th, 1900, I found her lying in bed on her back, looking extremely exhausted and presenting most of the typical features of chlorosis. Her development and nutrition were good, but her face was extremely blanched and the lips and conjunctivæ were very pale. Pulsation was visible in the neck and a *bruit de diable* was well marked. On the 20th the patient had a few fainting fits, from which she always quickly recovered. On the next day (the 21st) she had a severe attack of vomiting, with severe headache. A blue pill, followed by a saline draught, was given with some benefit. On the evening of the 22nd she seemed very weak and could not turn on to her side. She slept fairly well but on awakening next morning she complained of a feeling of numbness in the left arm and leg, saying that those members appeared to be "dead." At the time she complained of great pain over the vertex and frontal region. This pain could not be localised to any one side. Her memory was confused—for instance, she did not know the day of the week or what she had had for breakfast. She was slightly delirious at times. The speech was unaffected. There was paralysis of the left arm and leg. As regards the leg the paralysis was complete, while the paralysis of the arm was partial. The opponens and adductor of the thumb were in action, the flexors of the wrist were slightly in action, while all the other muscles of the limb were paralysed. There was no facial paralysis. When the tongue was protruded it pointed distinctly to the right side. The left knee-jerk was slightly exaggerated. There was no ankle clonus. At this time there was incontinence of urine. The pupils were very large and they reacted to both light and accommodation. The discs, beyond being pale, seemed normal. There was no optic neuritis. The urine contained no albumin or sugar. The pulse was 120, and the temperature was 100° F. As regards the sensory symptoms there was slight anæsthesia of the left arm and leg. There was no hyperæsthesia.

[1] THE LANCET, Feb. 22nd, 1890, p. 404.

Dr. J. Russell of Arbroath saw the patient with me and after weighing carefully all the possibilities we came to the conclusion that the cause of the hemiplegia was a clot of blood in one or other of the cerebral sinuses or veins in the region of the right motor area. We excluded secondary thrombosis, i.e., thrombosis due to disease of the internal ear, fracture, tumour, or suppurative disease. Embolism was excluded.

Under appropriate treatment the patient gradually improved. A belladonna plaster was applied over the præcordial region, while digitalis, nux vomica, and iron were given internally. The bowels were kept regular with cascara. A light nutritious diet was added. In two days under this treatment improvement was noted. The temperature and pulse gradually came down to the normal, and six days later the paralysis of the arm began to pass off. The patient could not move her toes till about three weeks from the time that the paralysis occurred, and three weeks later she was up and limping about. Two months after the beginning of her illness she was practically quite well, except for some dragging of the left leg.

Friockheim, N.B.

A CASE OF ABSCESS OF THE PAROTID GLAND PRESENTING UNUSUAL SYMPTOMS.

BY W. J. BEVERIDGE, L.R.C.P., L.R.C.S. IREL.,
SURGEON TO THE CAYLLOMA SILVER MINING COMPANY, LIMITED.

ON May 14th of this year I was consulted about an Indian boy, aged about 10 years, who was suffering from an inflammatory swelling involving the right side of the head and face. He gave the following history. He had had a slight soreness in the throat, accompanied by pain over the right parotid region from May 2nd. On the 6th he noticed a swelling in front of the right ear. This swelling increased during the following days, spreading forwards over the cheek and upwards over the temporal region; from the temporal region it spread backwards and downwards, till on the 11th he noticed (to use his own expression) "a soft pimple" in the groove behind the helix of the ear. The boy presented a most peculiar appearance. The helix of the ear was tilted forward by an abscess situated in the groove behind; the position of the zygoma was marked by a hard groove, below which there were œdema and deep fluctuation; and there was considerable œdema over the temporal region and extending down to the mastoid process. Both tonsils were slightly swollen. The pus sac behind the ear being evidently about to burst I opened it, allowing a quantity of pus to escape. The flow of pus was greatly increased by pressure over the parotid. I applied an absorbent dressing and gave the boy a boric acid gargle. On the next morning I made an incision into the parotid, opening into a fairly large abscess into which I inserted a gauze drain. A considerable quantity of purulent matter escaped during the next few days. The œdema rapidly diminished and the boy is now quite well. I have no doubt that the lesion in this case was the very ordinary abscess in the parotid region following on the introduction of septic organisms through the tonsils. In this case, however, the pus worked its way upwards, passed under the zygomatic arch, then backwards beneath the strong temporal fascia, escaping under the lower border of which it was at length able to reach the surface. Previously to my seeing the patient no treatment whatever had been applied.

Cayllomas, Peru.

AUGUST BANK HOLIDAY ON THE CONTINENT.—For the convenience of holiday-makers on the Continent cheap tickets will be issued to Brussels available for eight days, viâ Harwich and Antwerp. Passengers leaving London in the evening reach Brussels next morning. Tickets at cheap fares will be issued by the Antwerp route to Berne from July 25th to 28th. For visiting The Hague, Amsterdam, and other parts of Holland, the Rhine, north and south Germany, and Bâle for Switzerland, especial facilities are offered viâ the Great Eastern Railway Company's Royal British Mail Harwich—Hook of Holland route, through carriages being run to Amsterdam, Berlin, Cologne, and Bâle, also restaurant car on the North and South German express trains to and from the Hook of Holland. The General Steam Navigation Company's fast steamers will leave Harwich for Hamburg on August 1st and 4th, returning August 5th and 8th.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

BELGRAVE HOSPITAL FOR CHILDREN.

A CASE OF CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.

(Under the care of Dr. EDMUND CAUTLEY.)

CONGENITAL hypertrophic stenosis of the pylorus is still sufficiently uncommon in this and other countries to warrant placing the following instance of the disease on record. It is a remarkable circumstance that as soon as a new morbid condition is described many older records of its occurrence are discovered, and before long it is found to be by no means so rare as was thought at first. Dr. Cautley's paper on hypertrophic stenosis of the pylorus in infants, read before the Royal Medical and Chirurgical Society in November, 1898, though not the first account of this interesting disease, contained the first thorough description of the condition with a collection of the previously recorded cases. We have no certain knowledge of the real cause of this malady, and so far the only satisfactory treatment appears to be surgical.

A female infant, aged three months, was admitted into the Belgrave Hospital for Children under the care of Dr. Edmund Cautley on June 29th, 1900, and died on the next day. Her parents were described as healthy. She was born at full time and seemed to be a normal infant. She was the fourth child, the others being alive and well. The mother had had no miscarriages. During the first six weeks of life the infant was fed on cow's milk and barley-water, and was said to have had about a pint of the former in the 24 hours. She was constantly sick and was then put on one teaspoonful of condensed milk with four tablespoonfuls of water and lime water for a feed, and was only fed four times a day. During the two days before admission she had meat juice and whey. The mother's account of the feeding and of the past history generally was variable and unreliable. She stated that the vomiting had been constant since birth, the food being kept down only a short time, and that constipation had been very troublesome. For three weeks before admission the vomiting and wasting had been more pronounced.

On admission the child was dirty, flea-bitten, and emaciated, weighing 6 lb. 3 oz., and had occasional slight general convulsive movements. The temperature was normal. The vomiting was frequent and persistent, food being retained a very short time. There was no bile in the vomited matter. The bowels acted five times; the stools being small, watery, and greenish, and containing traces of fæcal matter. The convulsive movements became continuous and the temperature gradually rose, reaching 105° F. before death, which took place a few hours after Dr. Cautley first saw the child.

Necropsy.—On making a post-mortem examination it was found that there was great emaciation. The stomach was largely dilated and its walls were thinned, except in the region of the pylorus where the wall was thicker than usual in these cases. The contents consisted of a little partially digested food and some excess of mucus. The mucous membrane was not inflamed but presented a slightly catarrhal appearance. The pylorus formed a definite elongated, cylindrical tumour which was an inch long and firm and hard. Its limits were very easily defined, especially on the duodenal side. On laying open the duodenum the pylorus presented the same appearance as the os uteri when seen from the vagina—a small central orifice surrounded by a thick, smooth, ring-like wall. Occlusion of the orifice was completed by the folds of mucous membrane, and the liquid contents of the stomach could not be squeezed through it, though a small probe could be passed through into the stomach. On laying open the pylorus longitudinally it was noted that the mucous membrane was

thrown into a thick, raised, ridge-like fold, bifurcating into the mucous membrane of the stomach. The wall was three-eighths of an inch thick at the duodenal end and thinned off towards the gastric end, though very definitely limited in this direction, hence the pylorus as a whole was somewhat funnel-shaped. As in previous cases the increase in the thickness of the wall was due to hypertrophy of the circular muscular fibres. The intestines were collapsed and empty. The other organs were normal.

Remarks by Dr. CAUTLEY.—In a paper[1] on this affection read before the Royal Medical and Chirurgical Society in 1898 I described two typical cases of this disease which came under my care in 1897; mentioned a specimen in the St. Bartholomew's Hospital Museum presented by Dr. J. Raglan Thomas and subsequently shown at a meeting of the Pathological Society of London by Dr. H. Morley Fletcher;[2] and gave brief abstracts of 17 other typical cases collected from medical literature, and also short notes of six allied cases which were not sufficiently definite to be included as typical. Since that paper was written no less than 11 other instances have been recorded by Schwyzer,[3] Stern,[4] Rolleston and Hayne,[5] Meltzer,[6] Adler (referred to by Meltzer),[7] Abel,[8] Still[9] (three cases), Batten,[10] and Pritchard.[11] Together with the present case this makes a total number of 32 undoubted cases. It is noteworthy that no less than 26 of these have been recorded in the last five years. It is clear, therefore, that the disease is not so rare as has been supposed.

Fuller details of the symptoms, diagnosis, pathology, and morbid anatomy of this condition will be found in the paper first referred to. In only one respect does the present case differ from the typical instances—namely, in the small, watery stools passed during the last day of life. Complete constipation is the condition usually present. It was noted at the necropsy that the intestines were practically empty and that the occlusion of the pylorus was complete. Possibly the stenosis is aggravated by post-mortem contraction of the hypertrophied muscle and during life it is not quite so extreme.

The two chief theories put forward as to the causation of the disease are as follows:—1. It is due to a simple redundancy of fœtal growth. Nature, in her extreme anxiety to provide an efficient pyloric sphincter, has over-exerted herself and produced too great a quantity of muscular tissue. 2. Thomson[12] suggests that the essential lesion is not a muscular but a nervous one—a functional disorder of the nerves of the stomach and pylorus leading to ill-coördinated and therefore antagonistic action of their muscular development. Neither of these theories is completely satisfactory and the affection still requires further elucidation. Treatment consists in giving small, easily digested, or pre-digested meals. Nasal feeding has proved beneficial. Rectal feeding prolongs life. Probably the only chance of permanent benefit lies in operation. In Abel's case operation resulted in cure; that is to say, the child was discharged from the hospital as cured in two weeks. So far no other successful operation has been recorded. Pylorectomy offers the best chance of success. It is, no doubt, a serious operation and, apart from that, the infant when the disease is diagnosed is hardly in a condition to stand such an operation. Now that more attention has been attracted to the subject it is probable that an earlier diagnosis will be made and more successful results will be attained.

NEWCASTLE-ON-TYNE ROYAL INFIRMARY.

A CASE OF HYDATID OF THE LIVER AND SUPPURATING HYDATID OF THE LEFT LUNG.

(Under the care of Mr. RUTHERFORD MORISON.)

THE early diagnosis of the presence of an hydatid cyst in the lung is very difficult, and though exploratory puncture may afford definite information in doubtful cases, yet the danger of rupturing the cyst during the puncturing and of flooding the lungs with the hydatid fluid is by no means small, several fatal cases having been recorded. When the hydatid has given rise to an empyema the treatment is much more simple. The modern method of treating hydatids of the liver by incision after free exposure of the organ gives much more satisfactory results than those obtained by tapping, as it is possible to remove every portion of the parasite and the cavity in the liver is gradually obliterated. For the notes of the case we are indebted to Dr. Henry Fielden, house surgeon.

The patient was a single woman, aged 30 years, who was admitted into the Royal Infirmary, Newcastle-on-Tyne, on March 3rd, 1899, complaining of a swelling on the right side. She stated that in August, 1895, she began to suffer from pain below the right breast and at the top of the right shoulder, increased by deep breathing and by swallowing. The pain on swallowing was so prominent a symptom that her condition was attributed to indigestion. At Christmas of the same year she noticed that the right side was becoming larger and at the same time the pain was more marked than it had been before. She continued going about her housework suffering in this way till August, 1898, when she had a severe attack of pleuritic pain in the left side which was accompanied by a dry cough. For this attack she remained in bed for three days and then got up. She had only been up for three days when while walking along a landing she was seized with a violent, continuous fit of coughing which lasted from 7.30 P.M. to 4.30 A.M. and almost a gallon of muco-purulent material was expectorated. To her medical attendant the case now assumed all the appearances of phthisis and this it was considered to be. This appearance was rendered still more deceptive by the occurrence 12 months previously of hæmoptysis. Until she reached the age of 15 years her parents had a dog living in the house. From the age of 18 years she was maid in a hotel where she was accustomed to eat freely of green vegetables. On admission she had the appearance of a patient suffering from phthisis. She had a cough and expectorated a good deal of muco-purulent material. Respiratory movements were much freer on the right than on the left side, especially at the base, and the base of the right chest bulged. Percussion gave a resonant note all over the chest except over an area of about the size of the palm of the hand below the scapula on the left side, where there was a great loss of resonance but not absolute dulness. The breath sounds were rather harsh on the right side. At the left base behind the breath sounds were feeble and were accompanied by bubbling râles. The heart sounds were normal. There was a large swelling in the right hypochondrium which made the ribs bulge forward and moved with respiration. The swelling felt elastic and fairly tense. On percussion it was possible to obtain a "hydatid thrill." The liver dulness was increased. A diagnosis of hydatid of the liver was made.

An operation was performed on March 9th. Under chloroform a transverse incision was made from the right rectus in front to the quadratus lumborum behind and the liver was freely exposed. An exploring syringe was then introduced into the liver and a clear fluid like hydatid contents was drawn off. The liver was then incised, the cyst was opened, and the contents of the cyst, about half a gallon of fluid and daughter cysts, escaped. By the aid of lithotomy forceps, sponges, and washing the whole of the remainder of the cyst wall was removed. No pus was discovered. A gauze drain and a tube were then introduced into the cavity and the abdominal wound was closed except behind where the tube and gauze were left projecting into the loin. For some time the temperature remained elevated and the cough was extremely troublesome. On the 25th she expectorated some muco-purulent material containing "grape skins." The base of the left chest was examined and was found to present the physical signs of an empyema. An exploring needle was inserted on the 29th and pus was drawn off. On the same day chloroform was administered and portions of the seventh and eighth ribs were removed, and the collection of pus in the lung was cut into, when a large number of cysts escaped. A gauze drain and tube were inserted and she had no further bad symptoms. The cough almost entirely ceased. She was discharged on May 4th; she had regained perfect health and is now in a housemaid's situation.

[1] Transactions of the Royal Medical and Chirurgical Society, 1899, vol. lxxxii., p. 41. (This paper contains a full bibliography.)
[2] Transactions of the Pathological Society of London, 1899, vol. l., p. 98.
[3] New York Medical Journal, vol. lxvi., p. 726.
[4] Deutsche Medicinische Wochenschrift, 1898, Band xxxviii.
[5] Brit. Med. Jour., 1898, vol. i., p. 1070.
[6] New York Medical Record, 1898, vol. liv., p. 253.
[7] Ibid., p. 257.
[8] Münchener Medicinische Wochenschrift, November, 1899, and Brit. Med. Jour., Epitome, 1900, vol. i., p. 89.
[9] Transactions of the Pathological Society of London, 1899, vol. l., p. 86.
[10] THE LANCET, Dec. 2nd, 1899, p. 1511.
[11] Archives of Pediatrics, 1900, p. 241.
[12] Scottish Medical and Surgical Journal, June, 1897.

Medical Societies.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Untoward Results following Abdominal and Pelvic Surgery and the Means to Prevent them.

A MEETING of this society was held on July 13th at Buxton, Dr. W. J. SMYLY (the President) being in the chair, a number of the Fellows of the society and their lady friends being previously hospitably entertained. The scientific work of the meeting took place in the Town Hall, where Mr. J. E. HARRISON, vice-chairman of the Buxton Urban District Council, delivered an address of welcome, which was acknowledged by the PRESIDENT.

Mr. CHRISTOPHER MARTIN (Birmingham) showed a specimen of Ruptured Cornual Pregnancy.

Mr. CHARLES RYALL showed a specimen of Necrosis of the Cervical Stump following Supra-Vaginal Hysterectomy.

Mr. E. STANMORE BISHOP (Manchester) introduced a discussion on Untoward Results following Abdominal and Pelvic Surgery, and the Means to Prevent them. He said that defective results after abdominal or pelvic work reacted upon future cases to the detriment of the reputation of the operation itself, and deterred other patients from resorting to operation in time to receive effective treatment. The type of operation which Mr. Bishop selected for discussion was that of hysterectomy for fibro-myoma. The defective results treated of were as follows: 1. Fatality, which was due most often to delay and next to sepsis. In connexion with this Mr. Bishop spoke of the advisability of early purgation and gave reasons for this and explained the rationale of its action and the methods of operation. 2. Ventral hernia; the percentage of occurrence was given and explanations offered for its occurrence, with the reasons for adopting suture in layers and the use of celloidin. 3. Intestinal and omental adhesions, which showed the need for perfect re-formation of the peritoneal potential cavity. 4. Vaginal prolapse; reasons were given for the closure of the pelvic peritoneum and the dangers of non-closure were pointed out. 5. Persistent sinuses, in connexion with which Mr. Bishop explained the preparation of the ligatures and the use of the drainage-tube. 6. Other defective results.

Dr. HEYWOOD SMITH remarked that he thought that subperitoneal hysterectomy was safer than panhysterectomy. The risk of ventral hernia could be minimised by making the incision not through the linea alba but an inch to one or the other side.

Mr. CHRISTOPHER MARTIN (Birmingham), in contrasting the various methods of hysterectomy, said that he failed to see what good the cervix could do after the rest of the uterus had been removed. The objection that the removal of the cervix weakened the vaginal vault and predisposed to prolapse was, he believed, a purely theoretical one. He had never seen such a result after panhysterectomy. Referring to the question of ventral hernia he said that he was at one time much opposed to the use of buried sutures, but since adopting the late Mr. Greig Smith's suggestion of boiling chromicised catgut in xylol or absolute alcohol he had not had any stitch abscesses and he thought that the plan of sewing up in three layers was the best.

Dr. MACNAUGHTON-JONES pointed out that the same rules hold good in gynæcological as in other branches of surgery, and he agreed with Mr. Bishop that cases requiring operation should be dealt with as soon as possible. He was quite satisfied with the three-layer method of sewing up; he never had any trouble with buried sutures and he had had only two cases of hernia following operation. The form of operation for hysterectomy that he preferred was the supravaginal.

Dr. E. T. DAVIES (Liverpool) said that in cases of fibroids where there were no symptoms it was very difficult to know whether to advise operation or not. He had had one case under observation for six or seven years and the patient had had no inconvenience from the tumour except from the æsthetic point of view. His preference was for Baer's operation, but he did not think that the stump of the cervix was of any importance in maintaining the vaginal vault, for no inconvenience was observed in cases where the uterus was completely removed by the vagina for cancer. Malignant degeneration of the stump appeared to him somewhat of a bugbear; he had read of the occurrence but had never seen a case.

Mr. CHARLES RYALL observed that hernia was due in some cases to the use of drainage through the abdominal wall and he had never adopted this plan without regretting it. The best way to drain was through the pouch of Douglas or by Muscatello's plan. Stitch abscesses were in some cases unavoidable when the intestine had been opened, for the fingers were then liable to become infected and, similarly, the abdominal wound might become infected with malignant disease if such a growth were allowed to come in contact with the abdominal wall during removal.

Dr. ROBERT BELL (Glasgow) considered that the danger of opening the abdomen was due entirely to sepsis; but it was only when the septic matter was in a condition for absorption that sepsis could occur. The view that sepsis could occur from bowel infection appeared to him to be entirely theoretical; if that view were correct why should not infection result from constipation? The number of cases of hernia following abdominal section was appalling—he was not speaking from his own experience for he had had only one case himself. To prevent it the first thing was to close the peritoneum carefully; the operator could then take proper time to secure the fascia and arrest all bleeding. By this means suppuration did not occur, and if healing took place by first intention there would be no subsequent hernia.

Mr. J. W. DRAPER (Huddersfield) said that in the cases of fibroid that had been under his observation in general practice (about 15) the patients had not been subjected to myomectomy. In one case the ovaries had been removed; in another, a case of small pedunculated fibroid producing pressure symptoms, the tumour had been removed. Of these patients none had died from the disease and most of them had passed the menopause. On the whole he believed that they had enjoyed a better life, in spite of the lumps which they carried about inside them, than they would have done if they had been operated upon; but these cases required watching.

The PRESIDENT said that his experience had been very different from that of the previous speaker. He had seen a large myoma forced down into the vagina and suppurating there; he had seen malignant degeneration, sloughing, and hæmorrhages threatening life as the result of not operating in cases of myoma. It was noticeable that in speaking of the risk of hernia everyone seemed best satisfied with the particular method of suture that he had last adopted; also most operators found herniæ in the practice of other men but not in their own. This was because, naturally, the patient did not come back to the man who had given her a hernia. His own plan was to be careful to secure the fascia, using boiled catgut. It did not seem to him that a strong case had been made out for celloidin. If a wound were aseptic it would heal whatever the dressing, and if it were not aseptic it seemed to him that celloidin would be a disadvantage.

Mr. STANMORE BISHOP briefly replied.

EDINBURGH OBSTETRICAL SOCIETY.

The Treatment of Dysmenorrhœa.—Election of Honorary Fellows.

THE special summer meeting of this society was held on July 11th, Dr. R. MILNE MURRAY, President, being in the chair.

Dr. F. W. N. HAULTAIN opened a discussion on The Treatment of Dysmenorrhœa. From a professional standpoint dysmenorrhœa might, he said, be defined as "pain associated with, and dependent on, menstruation of such severity as to materially interfere with the sufferer's performance of her usual duties." As a rule the pain was local and pelvic, but in certain cases it was referred to the head, the stomach, and to other organs. From the frequent presence of more or less discomfort along with menstruation the lay mind had come to consider pain as a physiological attribute of the function, and that even in an aggravated form the pain was to be borne with resignation, and that it was wrong, even if possible, to attempt amelioration. But pain at the menstrual periods sufficient to interfere with a woman's usual duties was to be considered pathological and was usually due to local abnormal conditions. Practically the causes of dysmenorrhœa might be briefly considered as inflammatory and obstructive, along

or combined. The inflammatory variety embraced congestive and inflammatory conditions of any of the organs physiologically concerned in the function—the uterus and its appendages. The obstruction necessarily was confined to morbid states of the uterus alone. A rational explanation of the pain in the latter was that the blood which escaped from the capillaries of the uterine mucosa was impeded in its escape from the uterus. This might be by a temporary state of spasm or by a permanent blocking of the uterine canal through flexions, new growths, or developmental stenosis. The obstruction caused retention of blood which might or might not coagulate in the uterine cavity and which stimulated forcible contraction of the organ for its expulsion. When the pain was inflammatory it was due to the vascularity which occurred before menstruation still further congesting the already inflamed tissues; the discomfort was necessarily diminished after the depletion which occurred during the flow. The pain might be menstrual or pre-menstrual or both. The ovarian or tubal dysmenorrhœa was mainly pre-menstrual in its character, the depletion occurring as a result of the flow giving considerable relief. On the other hand, in uterine inflammation, such as endometritis, the pain, though pre-menstrual, might be continued through the period by the contractions of the tender uterus or by the thickened and swollen mucosa offering a block to the easy exit of the menstrual blood. Congested or inflamed ovaries gave rise to both menstrual and pre-menstrual pain. In Dr. Haultain's experience the obstructive or menstrual greatly preponderated over the other—in a proportion of quite ten to one. The treatment of dysmennorrhœa depended on the many different causes and it must be adapted to these causes. If a displacement were present it must be rectified; if a new growth, it must be removed; and if a stenosis, the dimensions of the canal of exit must be enlarged. By far the most common causes of this type were stenosis and flexions, the latter being usually a congenital anteflexion though exceptionally it was a retroflexion. In retro-displacements, replacement and retention in position was the only method to be adopted. In the most common congenital anteflexion with stenosis vaginal supports were practically valueless and uterine stems were dangerous to use, and therefore treatment in these cases consisted in dilatation or incision of the uterine canal to such an extent that mechanical obstruction was removed. Dilatation might be accomplished in two ways, forcibly or gradually. The use of the tent or the forcible dilatation by bougies up to 15 French or 10 Hegar was most efficacious, but in the majority of aggravated cases there was present a coincident endometritis, in which cases curettage with subsequent hot vaginal douching materially assisted in effecting a more rapid and permanent cure. Incision of the canal was not now so frequently adopted as formerly, but in well-marked cases of stenosis it was of much value in establishing a permanent dilatation of the cervical canal. Care should be taken to keep the incision open for 48 hours by packing with iodoform gauze. The treatment of the menstrual variety of dysmenorrhœa by means of drugs was most discouraging, a result to be expected if the cause was a mechanical obstruction. By drugs hope for alleviation of the symptoms only could be entertained. Unfortunately medicinal treatment consisted largely of the use of stimulants and anodynes, both of which were objectionable from their deleterious effect upon the general health and morale of the patient. Many dipsomaniacs and morphomaniacs could trace the origin of their degradation to the comfort given by alcohol and opium during painful menstruation. In inflammatory and congestive forms, particularly those due to ovarian causes, sedatives, such as bromides, gelsemium, camphor, and hydrastis, found most favour, combined with hot applications, hip baths, and counter-irritants. When the ovarian condition was intractable, it was in rare cases found necessary to perform oöphorectomy. This was very exceptional and was only applicable when for special reasons it was imperative that the dysmenorrhœa should be removed. A point of prime importance was the question of the justification of the local treatment of dysmenorrhœa. With regard to married patients there could be no divergence of opinion that local examination and, if necessary, treatment should in all cases be carried out. With unmarried females the lines of conduct were by no means so clear. It was impossible to separate sentiment from duty. Yet sentiment must not be considered in those patients who had to maintain themselves by their own exertions and who were incapacitated for a day or two each month. Their dysmenorrhœa prevented their taking or keeping good situations. With those women who were affluent and did not require to work dysmenorrhœa might only mean a day or two in bed with a hot bottle and the use of anodynes. But if they desired to be cured, then it seemed right to examine them under an anæsthetic and at the same time to be prepared to dilate, replace, or curette the uterus if necessary. Some objected to local treatment as it directed attention to the sexual organs, but being *hors de combat* every month during a menstrual period was surely more potent in the same direction. Another argument was that dysmenorrhœa might improve spontaneously, but so did fissure of the anus, and yet it was treated whenever complained of. Whenever drugs had failed to relieve the dysmenorrhœa then a local examination under an anæsthetic was the correct mode of procedure, carrying out any treatment that might be required.

Dr. H. M. CHURCH considered prevention better than cure and that it was the duty of guardians to be very careful at the commencement of menstrual life in the case of girls who were growing. It often happened in these days of school pressure that the education of the mind was carried on at the expense of the bodily health. This occurred more in city life than in country life and dysmenorrhœa was probably more frequent in city life. It was certainly true that dysmenorrhœa and morbid functional neuroses arising therefrom were more common in the cultured and educated classes than in the comparatively uneducated. This pointed to the desirability of a system of education less straining to the nervous system of the growing girl than it commonly was in many schools. In school life, with examinations and competitions, there was a more or less continuous excitement and strain. This affected all the secretions of the body both in quantity and quality. In the case of the uterus the disturbance might show itself in dysmenorrhœa, probably due, as Dr. Berry Hart had pointed out, to the deficient secretion from the cervix of that mucus which was believed to keep the blood of menstruation from coagulating. This would result in clotting of the menstrual blood and in the occurrence of spasmodic pain to expel it, and perhaps would be accompanied with sickness and retching. In order to prevent trouble Dr. Church recommended two or three days' rest on the sofa at menstrual periods, or if there was pain complete rest in bed where it could possibly be carried out. He referred specially to rheumatism of the uterus as a cause of pain in some cases; and if it attacked the fibrous tissue at the os internum it might lead to anteflexion. Salicylate of soda generally gave relief. In cases of dysmenorrhœa he recommended judicious cycling or gentle horse-back exercise between the periods.

Professor KYNOCH (Dundee) thought that it was important to remark that dysmenorrhœa was a symptom indicative of disease, uterine or extra-uterine or both. In young girls he did not think it was advisable to resort to any local treatment without a prolonged trial of constitutional remedies. With regard to local treatment his experience of dilatation was that rapid dilatation was not very satisfactory. These patients came back in a very short time, and dilatation was necessary again. He had now entirely given up the rapid method, using a tupelo tent which he left in for 12 hours, replacing it again for two subsequent days and plugging the uterus in the intervals with sterilised gauze. This method was more tedious but the results were more permanent, and he had not seen any bad effects from septic trouble. With regard to dysmenorrhœa due to extra-uterine affections, commonly occurring after a pregnancy, douching was very effective. But it must not be carried out in a sitting posture, which was practically useless, and the water must be hot enough to have a beneficial effect on the inflammatory processes. This temperature, as a rule, could not be borne, as the water produced so much pain on flowing over the skin as to make the patient cry out with pain. An instrument introduced by Stratz he had found very useful in allowing water at any temperature to be applied to the vagina, the return flow being prevented from touching the skin. If that failed he had had satisfactory results, and some unsatisfactory results, by opening the abdomen from the vagina and breaking down adhesions, and if necessary inspecting and treating the ovaries, &c. He had very little experience in the removal of the ovaries for this trouble. In two cases under observation just now where the ovaries had been removed for pain there

had been no improvement whatever. He would reserve removal for cases of defective development of the uterus associated with atresic conditions. In other conditions he preferred the vaginal route to the abdominal route and had obtained quite satisfactory results.

Dr. JAMES FOULIS referred to the large number of causes of dysmenorrhœa and considered that uterine treatment should only be carried out when the uterus was proved to be the cause of the pain. The question of morale always came up in the local treatment of girls, and examination was only justifiable when all ordinary remedies had failed. Many girls got well without treatment; marriage often cured them. He specially referred to the use of iodide of potassium as of great service in treating painful menstruations, giving it for several days before the period. The ovaries were often the seat of the dysmenorrhœa, and yet considerable disease of the ovary might be present without pain. Even large tumours of both ovaries might be present and yet menstruation might occur without pain. He believed that it was often ignorance of the true cause of the pain which led operators to remove the ovaries in one case and to leave them in another. Many cases had been operated upon injudiciously.

Dr. JOHN CONNEL (Peebles) had seen many cases of dysmenorrhœa even under conditions of healthy country life. He desired to emphasise the opinion that local examination should be the very last thing to be thought of in the unmarried. He knew of dozens of young women who had suffered severely and had got well somehow. He believed that the introduction of the bicycle had had more to do with the removal of painful menstruation than any other remedy he had heard of in late years. Constipation was a very common cause of dysmenorrhœa and it was often overlooked by parents in attending to the health of their daughters. As regards remedies he deprecated the use of alcohol in any shape or form; he had often found it to be the case that female drunkards had been prescribed alcohol for painful menses when they were young girls. Recently he found a young married woman being given three half-cupfuls of whisky by her relatives at her menses; she was practically drunk when he saw her. Whatever was given for dysmenorrhœa alcohol should be avoided.

Dr. J. M. MUNRO KERR (Glasgow) considered dysmenorrhœa as a symptom which was at present called a disease owing to the lesion causing it being obscure or hidden. These cases would gradually disappear so that there would be as little justification in making this diagnosis as at present there was of diagnosing "menorrhagia." The disease "membranous dysmenorrhœa" should be taken out of this class and properly spoken of as "endometritis exfoliativa menstrualis." In an analysis of 60 cases he had found an abnormally small uterus in three, stenosis of the cervix in six, and pathological anteflexion in 16. As regards stenosis it was very slight, and it was a question whether it was the cause of the pain. In treatment he favoured gradual dilatation by Hegar's dilators. No doubt in the majority of the cases the pain returned in four or five months, but it was not very trying to have the operation repeated. Electricity had occasionally been attended with good results. He had not found bleeding very successful. He had tried iodide of potassium and salicylate of sodium, but the only drugs which he had found of any benefit were antipyrin and phenacetin. He agreed with the remarks made about the use of the bicycle.

Dr. A. H. F. BARBOUR considered that operative treatment in this condition depended on the amount of the patient's suffering, and this was difficult to estimate. It depended largely on the up-bringing of the patient whether she thought a great deal about herself and magnified her ailments and suffering. If trained to think more about others and to work for them the patient did not suffer so much. In judging of the amount of pain attention should be kept on two factors—the stimulus to the peripheral end of the nerve and the irritability of the sensory nerve-centres. One of the largest benefits ever done to gynæcology had been done by Dr. Weir Mitchell, who benefited these cases so much by feeding and improving the central nervous system. He disagreed with Dr. Haultain with regard to the various operations for these cases, believing strongly in medical treatment and attention to diet at least for a few months. A course of arsenic helped very much and antipyrin could be given at the periods.

Dr. JAMES RITCHIE did not believe in local examination until every other reasonable means of treatment had been exhausted. Many cases were due to a low type of inflammatory condition and yielded to douching and ichthyol inunction, and he had known these means to suffice in cases where removal of the ovaries had been advised. The treatment of anæmia and rheumatism often relieved the dysmenorrhœa. As regards the pathology of the condition he considered that there was a periodical flushing of the pelvic organs every month and that the nervous system and vasomotor nerves had a wonderful influence over the amount, so that if the person were ill there was much more likelihood of excessive flushing from excessive dilatation of the blood-vessels. There were certain organs of which we were not conscious in a condition of health but which when they became slightly over-congested immediately became painful. In the treatment of these cases tonics were of advantage.

Dr. HOLMES (Chicago) did not believe in the mechanical theory of obstruction, as the blood that could flow through a capillary could surely pass the internal os with a diameter larger than a capillary. If clotting were present the case was altered. The amount of pain suffered depended on the amount of innervation of the uterus. He had attended a woman who never had any pain with her menses and who passed through her labour entirely without pain until there was distension of the vulva. The uterus in this case was faultily innervated; on the other hand, in dysmenorrhœa there might be excessive innervation. In the States gynæcological practice had fallen off; this was due to the fact that among American girls cycling was exceedingly common and tennis and golf also were cultivated.

Dr. J. W. BALLANTYNE considered it necessary to treat dysmenorrhœa completely till it was cured, not partially and then tell the patient nothing more ought to be done. Constipation was a very frequent cause of the trouble. The more correctly the cause was diagnosed the more successful the treatment would be. With the consent of the patient and the parents this ought to be made in every case and the proper treatment ought then to be applied; otherwise they failed in their duty.

The PRESIDENT specially referred to the appalling results that sometimes arose from the administration of alcohol to young women during painful menstruation. Local examination under an anæsthetic he considered necessary when other means failed. He did not believe that any damage could be done to a girl's feelings by an examination under chloroform at all comparable to the constant dread and anxiety with which the patient must look forward to those monthly recurring attacks. He had known many women to express the greatest gratitude for a comparatively slight operation—an amount of gratitude that might seem unreasonable unless they put themselves in their position.

Dr. HAULTAIN replied.

Professor Slinger of Prague and Professor Fehling of Halle were elected, after ballot, Honorary Fellows of the society.

Reviews and Notices of Books.

Reports from the Laboratory of the Royal College of Physicians of Edinburgh. Vol. VII. Edited by Sir JOHN BATTY TUKE, M.D. Edin., and D. NOEL PATON, M.D. Edin. Edinburgh: Oliver and Boyd. 1900.

THE present volume of these reports is considerably larger than its precedessors, probably for the reason that it is composed not of articles appearing here for the first time as in previous years, but of reprints of work which, though emanating from this laboratory, have seen the light first elsewhere. This change is perhaps the natural outcome of the multiplicity of medical publications at the present time and the not unnatural desire of writers and workers that their results shall be made public both as widely and as soon as possible. Though necessarily less interesting than fresh matter, the periodical collection of work done in individual laboratories and schools has many advantages.

The papers before us are collected into four groups according as they are physiological, anatomical, pathological, or pharmacological. The physiological section contains the great bulk of the material and serves as a monument to the energy and successful industry of Dr. Noel Paton, the superintendent of the laboratory. Both the most

important and, at this time of the year when, like everyone else, the medical man's "fancy lightly turns to thoughts" of his yearly holiday, the most interesting articles are the 18 papers dealing with Investigations on the Life History of the Salmon in Fresh Water. The first 17 of these constituted a report made to the Fishery Board for Scotland in 1898. Among the many interesting points decided in this report it appears that salmon migrate into rivers not from an urgent impulse to spawn, for their genitalia may be found in all stages of development, but because the fish tend to return to what was their original habitat after accumulating the necessary amount of food. Though they take a fly, salmon never really feed in fresh water; there is a peculiar degenerative change in the stomach and intestine of salmon during their stay in fresh water which shows that the organs are for the time functionless. Salmon return to the sea to get food, which is stored up in the body for use during their long fast in fresh water. During the stay in the sea an enormous accumulation or storage of fat takes place in the muscles; this is subsequently utilised to supply the fat of the growing genitals or is used up by the muscles.

Dr. James Dunlop's report on prison dietaries presented to the Prison Commission in Scotland is a complete and laborious piece of work, and contains as an appendix notes on the prison dietaries of other countries. Among the other varied papers that are to be found in this report reference should be made to a valuable series of articles on animal pigments by Miss Newbigin, and to further papers inspired and in part contributed by Dr. Noel Paton.

Encyclopædia Medica. Under the general direction of CHALMERS WATSON, M.B. Edin. Vol. IV.: Foot to Hernia. Edinburgh: William Green and Sons. 1900. Pp. 534.

THE fourth volume of this extensive undertaking appears well up to its promised time and contains a number of authoritative articles written by recognised experts. Thus the editor is to be congratulated on the success that has attended his efforts in obtaining the services of Mr. Mayo Robson as a contributor on Diseases of the Gall-Bladder and Bile-ducts, of Dr. Dawson Williams on Glandular Fever, of Dr. David Newman on Hæmaturia, and of Dr. Graham Steell on Diseases of the Myocardium and Endocardium. It is impossible even to refer to all the articles, but it is only right to draw attention to some of the more notable. Dr. G. F. Still, who is well known in connexion with his careful pathological work on diseases of children, has wisely been chosen to write on the Gastro-intestinal Disorders of Infancy and has admirably justified his title thereto. Dr. A. E. Garrod's name is so rightly associated with modern knowledge on urinary pigments that it is satisfactory to find that he is responsible for the articles on Hæmoglobinuria and Hæmatoporphyrinuria. The heart is fully treated in this volume and an extremely careful and accurate contribution on its pathology is provided by Dr. T. N. Kelynack, who is associated with his former teacher and present colleague, Dr. Graham Steell, in the valuable section on diseases of the myocardium and endocardium. Lastly, while congratulating Dr. Watson on his success in an editorial capacity, we must compliment him on his admirable contribution on the important subject of Gout.

Annual and Analytical Encyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M.D. Vol. V.: Methylblue to Rabies. Philadelphia, New York, and Chicago: The F. A. Davis Company. 1900. Pp. 662.

THE present instalment of this useful book of reference bears the date of October, 1899, and contains, in addition to a succinct account of the subjects treated, references to the literature of the three years 1896–97–98. Each article is complete in itself, and though it embodies, does not confine itself to, the advances of comparatively recent years. In these days of specialism the present volume must have been a laborious one to bring out, for it includes many specialties—otology, laryngology, neurology, obstetrics, ophthalmology, pediatrics, &c., in addition to subjects classed under general medicine and surgery. The printing and general appearance of the work are fully up to the standard of the preceding volumes, and, like them, volume V. will serve as a useful source of reference.

Progressive Medicine. Vol. I., March, 1900. Edited by HOBART AMORY HARE, M.D., assisted by C. A. HOLDER, M.D. London: Henry Kimpton. 1900. Pp. 428. Price 12*s.* 6*d.*

THIS is the first volume of the second year of Dr. Hare's summary of current medical literature, and is planned to provide the busy practitioner with an account, not of everything that has been written, but of those contributions that really mark an advance and are worthy of his time and attention.

In the surgery of the head, neck, and chest there is a useful *résumé* of the operative treatment of tuberculous disease of the lung. The next section, on infectious disease, including acute rheumatism and pneumonia, under the care of Dr. F. A. Packard, contains a coloured plate of Koplik's spots on the buccal or labial mucous membrane—the pathognomonic sign of measles. Dr. Blackadder has put together a very readable and interesting account of the recent work in diseases of children, while the account of the last year's advance in pathology by Dr. Ludvig Hektoen covers a great deal of ground and contains a large amount of interesting information. The volume closes with two reports on the Progress of Laryngology and Rhinology by Dr. Logan Turner of Edinburgh, and on Otology by Dr. Randolph of the Johns Hopkins University, Baltimore. In conclusion, the editor may be congratulated on the continued success of this useful medical quarterly.

LIBRARY TABLE.

The Standard Intermediate-School Dictionary of the English Language. Designed to give the Orthography, Pronunciation, Meaning, and Etymology of over 38,000 Words and Phrases in the Speech and Literature of the English-Speaking Peoples. With 800 Pictorial Illustrations. Abridged from the Funk and Wagnalls Standard Dictionary of the English Language by JAMES C. FERNALD, Editor of the Students' Standard Dictionary; English Synonyms, Antonyms, and Prepositions; The Spaniard in History, &c. London: Funk and Wagnalls Company. Price 4*s.*—This dictionary is certainly in many ways a remarkably good one. It is not, of course, satisfactory in every way, as, for instance, in the definition of the word "camel," although a good illustration is given of the Bactrian or two-humped camel of Asia no mention is made of the fact that the African variety has but one hump. This variety is given under the word "dromedary." Again, under the word "spider" we find the following: "An insect-like creature that spins a thread and makes webs to catch its prey." We cannot agree that a spider is an insect-like creature, neither do all spiders make webs to catch their prey, as the definition would probably convey to one who did not know. On the whole, however, the book will be found very useful and we are glad to see that in the illustrations of animals the amount of reduction is given.

For Britain's Soldiers. By RUDYARD KIPLING, S. R. CROCKETT, Sir WALTER BESANT, and others. Edited by C. J. CUTCLIFFE HYNE. London: Methuen and Co. 1900. Pp. 315. Price 6*s.*—Detailed criticism is out of place with regard to a book like this one, for all the stories were written by their respective authors as a contribution to the war fund, while the publishers are giving all the profits for the same object. But we may say that all

the stories are eminently readable and some are remarkably good. Mr. Rudyard Kipling introduces us to the son of the immortal Estreekin Sahib whom we all admired in the "Mark of the Beast." Adam is, indeed, his father's son, and one to be proud of. Sir Walter Besant supplies an interesting little study in psychology and Mr. A. E. W. Mason gives us as creepy a story as ever was written. The art of horrifying by the use of the indefinite is not within everyone's power, but Mr. Mason's account of the ride through that dreadful ravine ranks with the closing scenes in Lefanu's "Watcher," with that awful scene in "Dr. Jekyll and Mr. Hyde," where the butler and Mr. Urmson stood outside the locked door, and with the nameless horror of Miss Violet Hunt's "Story of Mrs. Arne." The book is one for holiday-makers to read.

JOURNALS.

Caledonian Medical Journal.—In the July number Mr. Alexander Macdonald of Inverness concludes his articles on the Ethnology of the Scottish Gael, the first of which was noticed in THE LANCET of April 21st (p. 1139). About the sixth century there were three principal kingdoms in Scotland—namely, the Pictish kingdom on both sides of the Grampians; the kingdom of Strathclyde, occupying Mid-South Scotland; and the kingdom of the Scots (who had come over from Ireland) in the south-west. The Picts were, he believes, an early offshoot northwards of Britain's (i.e., England's) earlier settlers who not improbably came into Scotland when another section of the same people migrated into Ireland. A few centuries later the Scottish Gaels might be resolved into two nearly equipotent races—(1) the Brito-Scottic, or early Celt, of dark hair, dark eyes, dusky skin, and small limbs; and (2) the fair or xanthous Celt, of fair or flaxen hair, blue or light-grey eyes, clear skin, and large limbs. In conclusion Mr. Macdonald describes at considerable length the facial characteristics of the modern Highlanders, classifying their features as "Ibero-Celtic," "Germano-Celtic," and "Scandinavian Celtic."

Dublin Journal of Medical Sciences.—The original communications in the July number are on Epidemic Cerebro-Spinal Meningitis, by Dr. H. C. Drury; on Epidemic Cerebro-Spinal Meningitis in Dublin, by Dr. A. R. Parsons; and on the Symptoms or Phenomena formerly known as Croup, by Mr. Langford Symes.

New Inventions.

AN APPLIANCE FOR DEODORISING ESCAPING SEWER GAS.

THE disgusting emanations which escape from fresh air drain inlets or from sewer ventilators, whether from the gratings in the roads or from shafts against buildings, are a constant source of annoyance and very often also of ill-health. Several attempts have been made, with more or less success, to render these aereal effluents innocuous. The latest addition to these contrivances has just been submitted to us by the inventors, Messrs. Bostel of 73, Ebury-street, S.W. It consists of a metal box about four inches square which fits over the inlet pipe having a grid on one side. Internally the box contains a glass dish filled with some non-corrosive disinfectant. For this purpose pine oil is to be recommended, for in addition to its pleasant smell this oil does undoubtedly absorb oxygen which it gives up again in contact with foul gases, thus destroying their noxious and unpleasant character. Behind the face of the grid is a screen composed of a number of small woollen wicks the lower ends of which rest in the disinfectant which ascends the wicks and keeps them loaded by capillary force. The air passing in or out through the grid travels through the screen and comes into intimate contact with the disinfectant, and thus the foul emanations are cleansed. The idea is certainly ingenious and so long as the apparatus is attended to its object will be gained. Every part is easily accessible, so that no difficulty need be experienced in keeping it in order. A small apparatus constructed on a similar principle is made for the diffusion of a volatile disinfectant in the air of the water-closet or other places where unpleasant smells are in evidence. The apparatus is inexpensive, is in use in our offices and elsewhere, and has given every satisfaction. It certainly appears to provide a much needed accessory to our systems of sewer ventilation both on the domestic and the large scale.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE:

A LAST WORD.

THE Thirteenth International Congress of Medicine will be held at Paris from August 2nd to 9th inclusive.

HOW TO BECOME A MEMBER.

Every duly qualified medical man wishing to become a member of the Congress must send to the offices of the Congress at 21, rue de l'Ecole de Medécine, (1) his name, Christian name, and qualifications; (2) his address; (3) his subscription of 25 francs; and (4) a note showing to which section he wishes to be inscribed as belonging. Names can be sent in up to the date of opening of the Congress, but in order to obtain railway facilities they had better be sent in as soon as possible.

PROGRAMME OF THE CONGRESS.

The Congress will sit every day except on Sunday, August 5th, and hold either general meetings or sectional meetings.

A. *General meetings.*—These meetings will be three in number and will unite all sections of the Congress. They will be devoted to the customary addresses and to the passing of the usual votes. (No one can deliver an address at a general meeting unless he has been previously invited to do so by the Executive Committee.)

B. *Sectional meetings.*—These meetings will be held every day. They will be devoted to the reading of papers and to discussions thereupon. Any member can take part in any of the work of any section whatever be the one to which he shall have been formally allotted.

C. *Visits to hospital and laboratories.*—Some sections have organised visits to the above establishments for certain days and at certain times. But in addition to these corporate visits members of the Congress are at liberty to visit any hospital or laboratory which they may choose.

Fêtes.—We have already given a list of the fêtes to be held during the Congress in our issue of July 7th, p. 34.

The *railway arrangements* for British members were published in our issue of July 14th, p. 127.

THE GENERAL MEETINGS.

So far the arrangements are as follows:—

At the *first general meeting* to be held on August 2nd at 2 P.M. in the Salle des Fêtes de l'Exposition, with the President of the Republic in the chair, the following addresses will be delivered:—Official addresses: (1) address by the President of the Congress; (2) report of the General Secretary of the Congress; and (3) addresses by the delegate members of foreign Governments. Scientific addresses: (1) address on Traumatism and Infection, by Professor Virchow; and (2) address on Experimental Therapeutics as a New and Fertile Method for Physiological Research, by Professor Pavlov.

The *second general meeting* will be held on August 6th at 2 P.M. in the large theatre of the Sorbonne, when the following papers will be read:—Professor Baccelli, On the Treatment of Tetanus by Hypodermic Injections of Carbolic Acid; Professor Sir J. Burdon Sanderson, Some Pathological Problems of To-day; Professor Jacobi, Medicine and Medical Men in the United States; and Professor Albert, On the Architecture of Bone in Man and in Animals.

The *third general meeting* will be held on August 9th at 2 P.M. in the large theatre of the Sorbonne, and the business will be as follows: award of the triennial prize founded in 1897 and given by the city of Moscow; announcement of the place of meeting and the names of the officers of the Fourteenth International Medical Congress; and declaration of the closing of the Congress.

THE LANCET.

LONDON: SATURDAY, JULY 28, 1900.

THE CENTENARY OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IN March, 1800, the Royal College of Surgeons of England received from GEORGE III. its first charter and during the present week the College has been celebrating the hundredth anniversary of its foundation. The history of the granting of the Charter and of the College during these 100 years is not without interest.

Towards the end of the eighteenth century the old Company of Surgeons came to a somewhat inglorious end through the illegal action of part of its governing body, and an attempt to reconstitute it by an Act of Parliament in 1797 was thrown out at its last stage; but three years later the Royal College of Surgeons was established by a Royal Charter. To it was intrusted the care and maintenance of JOHN HUNTER'S museum. The members of the Council under this Charter of 1800 were elected for life and filled any vacancies which might occur in that body by coöptation and by such a method of election it cannot be supposed that a very efficient governing body would be obtained. The museum and library were not utilised as they deserved. The museum for many years was uncatalogued and was open to the Members only during four months of the year, and then only for four hours each day. To the library the Members of the College were not admitted at all. These were only a few of the evils under which the College laboured. Reform in some measure gradually took place and the rights of the Members were recognised to a slightly greater extent; but it was felt that while the constitution of the College remained unaltered no thorough improvement could be effected. At last, after years of discussion and of debate, the Government decided to make the Council an elected body, but it was thought undesirable to confer the franchise on the whole body of Members, and therefore it was decided to create a new body of Fellows, to whom should be intrusted the right to elect members of the Council. Members of the College were to attain to the higher rank of Fellows by examinations of increased severity, but the first Fellows were all elected to that dignity from the general body of Members. It is under this constitution that the College at present exist and that it has merits cannot be denied. The number of Fellows has greatly increased, so that they now exceed 1200, but even at the present day the constitution of the College is oligarchical and the government is even narrower than it appears, for many of the acts of the College, which should be the work of the Fellows at least, if not of the Members, such as the election of the President and the appointment of the representative on the General Medical Council, are performed by the Council itself. The stream of reform in the College, however, still flows on, if slowly. Year by year greater concessions are granted to the Fellows and the Members. The museum is now open for nearly the whole year and for many hours a day. Every year at a general meeting of the Fellows and Members the Council presents a statement of the work done during the past year, and although these meetings have no legislative or executive power, yet their very existence forms a tacit acknowledgment of the right of the Members to a share in the body corporate. The tone also of the Council is changing and we may look forward with confidence to seeing at no distant date the Members allowed a part in the government of the College. Brief though this sketch of the history of the College may be, yet it will serve to show that substantial progress has been made in converting the institution set up in 1800 into a College of Surgeons founded on a broad basis of justice to all the constituents of the body corporate. Of the many other internecine conflicts that have occurred it is unnecessary now to speak. Suffice it to say that the original *non possumus* attitude of the Council is passing away. Slowly and reluctantly it yields to the steady pressure of modern thought and feeling.

Whatever opinion may be held as to many of the acts performed during its corporate life—and few indeed will be found willing at the present day to support all the actions of the Council during the early years of the century—all will agree that the Royal College of Surgeons of England is a most important element in surgical education and examination in this country. Although it is only one out of 22 examining bodies in the British Isles which have the power of conferring a licence to practice, yet it is probable that there is no body which exceeds it in beneficial influence on surgical knowledge at the present day. In two respects it is practically unequalled.

In the first place the unrivalled museum is a collection of which any institution might be proud. It is founded on the specimens prepared by JOHN HUNTER at an enormous expense. These were bought by the Government for £15,000 at HUNTER'S death and they were given into the custody of the Royal College of Surgeons. The collection has been greatly increased so that the preparations at present exceed by many times the original number. They include specimens connected with normal human anatomy and with pathology, anthropology, and zoology. There is also a very elaborate series of specimens illustrating physiology. It may safely be said that there is no other museum like it in the whole world.

The library also, though perhaps not quite so peerless as the museum, contains an exceedingly good and extensive collection of books connected with medicine and the allied sciences.

The work of the College in surgical education has been great in the past; it may well be much greater in the future. Let the Council make such arrangements as shall utilise to the full all the teaching power of the museum and the library; let there be established in addition to the few lectures given now to scanty audiences series of lectures on special branches of surgery, anatomy, and zoology, to be illustrated by the specimens from the museum. In this way the teaching power of the College could be greatly increased in addition, and not in opposition, to the ordinary lectures of the medical schools of London.

On the occasion of the centenary celebrations honorary diplomas have been conferred on the PRINCE OF WALES,

the Marquis of SALISBURY, the Earl of ROSEBERY, and many eminent men of this country and from abroad, and for this purpose a special supplementary Charter was obtained.

Although on many occasions we have felt it to be our duty to point out faults in the management of the College, yet we confess that in spite of all its faults—and they are many—we are proud of possessing in this metropolis of the world an institution like the Royal College of Surgeons of England.

THE starting-point of the wide discussion of the pathology of the nervous system presented to us in Dr. MOTT'S lectures[1] is the nerve-cell, the central nutritional element of the neuron. The peculiar granules revealed in its substance by basic staining agents, the method of NISSL, he regards as revealed, but not actually produced, by the influence of the hardening process. When the cells have been stained during life the granules are invisible, but this only shows that the hardening agent has increased the contrast between tissues that present a chemical and functional difference during life which is augmented by the process to which they are subjected after death. These Nissl granules are of great pathological importance on account of the changes they present in many conditions. They seem to consist of a nucleo-proteid substance which is precipitated in hardening, and is regarded as lying between the nerve fibrils which pass through the cell; it seems to be a protoplasmic substance intimately related to the nucleus of the cell and to its vital function. A change in the appearance of these granules and their coalescence attend most important functional alterations, and when they unite, so as to fill the cell with a mass homogeneously coloured, the conducting fibrillæ are apparently so far damaged as to be no longer capable of function.

The investigations of WALLER not only revealed the dependence of the nutrition of the nerve-fibres on the cells from which they proceed, but, as Dr. MOTT shows, he distinctly anticipated the conception of the functional units which is the essence of the neuron theory. Later research has shown that the section of the axis-cylinder has an upward influence on the cell, although far slower and slighter than that on the peripheral part of the nerve. This upward influence was, indeed, observed as a late result of amputation by Dr. W. H. DICKINSON long before the modern means of discerning the early and slighter changes in the nerve-cells were available. These changes are remarkable. After experimental division of the nerve the protoplasmic granules which stain so readily no longer remain distinct and the nucleus is displaced towards the periphery of the cells. A similar change is observed in cases of peripheral neuritis in which the axis-cylinder perishes at a distance from the cell. If recovery is possible the cell increases in size, the staining material resumes a more normal aspect, and the nucleus regains its central position. Ultimately the normal aspect returns after the nerve fibre has regenerated. The enlargement of the cell is regarded as evidence of physiological activity connected with the increased trophic energy. If the damage to the nerve is too severe to be recovered from, slow progressive changes occur in the proximal part of the fibre, with diminution of the myelin, and ultimately changes in the axis-cylinder and the alterations in the nerve-cell, instead of diminishing, progress to atrophy.

The slighter but definite changes in the nerve-cells when the nerve-fibre recovers have an interesting practical application which it was perhaps beyond Dr. MOTT'S province to notice. After recovery from pure peripheral inflammation such as that of the facial nerve, which causes the common form of facial paralysis, a remarkable over-action invariably ensues, in consequence of which there is undue tonic contraction of the muscles, sometimes accompanied by clonic contractions, and an associated over-action between the upper and lower parts of the face. It has been recognised that this must be ascribed to a morbid state of the nucleus, secondary in some way to the disease of the nerve trunk. The observed changes in the cells are important in this connexion. The associated over-action is, however, of muscles too distant to be explained by the changes in the individual cells, but the dendrons which convey the impulses to the cells must share the disorder of nutrition of the latter, and we are thus able to perceive a possible mechanism for this peculiar symptom, which has also been observed as a sequel to paralysis of the nerves of the arm.

Dr. MOTT'S observations on the appearances in the nerve-cells of the brain in experimental anæmia, which is soon relieved by the collateral circulation, are of considerable interest. He finds the transient disturbance of function is associated with swelling in the cells, an alteration in the arrangement of the staining Nissl granules, and a displacement of the nucleus towards the periphery of the cell, which may proceed to its extrusion and the death of the cell. The amount of destructive change can be traced by subsequent degeneration of fibres in the spinal cord. The slighter alterations gradually pass away if the circulation is soon enough renewed, and the several degrees of change closely resemble those which have been found in experimental anæmia of the spinal cord, according to its duration and in correspondence with the transient or permanent paralysis of the limbs which results. Another instructive subject is the influence of temperature on the nerve-cells. Their condition in cases of hyperpyrexia in the human subject shows a remarkable correspondence with those which have been found in animals that have been exposed to heat. In proportion to the degree and duration of the temperature there is the same confluence of the Nissl granules above described, indicating a profound alteration in the protoplasmic constitution of the cell. In man, however, the conditions found may be sometimes in part ascribed to the toxic agent which causes the high temperature. The proteid constituents of the nervous matter coagulate at different temperatures, and it has been found that one of the most important of these coagulates at a lower temperature if the exposure is more prolonged. A slighter degree of pyrexia for a longer period causes the same change as a higher degree for a shorter time. Thus, chemical investigations throw some light on the processes observed in disease. Moreover, it has been found that a slight degree of the change induced by hyperthermia is compatible with recovery, as is the

[1] See also leading article, THE LANCET, July 21st, 1900, p. 198.

similar change observed after injury to a nerve, and Dr. MOTT suggests that this may indicate a mode in which the cold bath effects its beneficial influence by reducing the temperature before its effects have continued so long as to preclude recovery.

The influence of toxic agents in causing degeneration of the neuron is perhaps the most important part of the subject from a practical point of view. It is this influence which has led to the wide extension of our knowledge of the mechanism of disease and the causes of symptoms. The toxic agents may be derived from without or may be generated in the body by micro-organisms or by perverted normal processes. The special selective influence of these toxic agents on certain parts of the nervous system is a familiar and special feature of their action of which Dr. MOTT gives many striking illustrations. As he insists, it shows that the tissue of the nerve structures of different function presents some slight modification in constitution which involves a different susceptibility. A striking instance of the difference in selective action which is caused by a most trifling difference in chemical composition is the discovery of Dr. A. WALLER that the difference of a molecule of water determines the action of one poison, veratrin, on the muscle or on the nerve. One of the most striking instances of local influence is afforded by the poison of tetanus. The affinity of this for nervous matter is strikingly shown by the fact that it loses much of its poisonous power if previously made into an emulsion with nerve substance. There is much discrepancy of observation regarding the occurrence of changes in the nerve-cells of the spinal cord after death from the tetanus toxin, a fact which may find its explanation in the chief action of the poison on the extremities of the dendrites.

The study of the chemistry of nerve degeneration has yielded interesting results, some of which are perhaps still open to the criticism which very few are qualified to afford. One practical point on which Dr. MOTT brings forward some weighty evidence is the probability that some of the symptoms in diseases attended with rapid nerve degeneration are due to the toxic influence of the products of the nerve tissues themselves. Choline, which seems to be a normal product of the metabolic changes in the nerve structures and is produced normally in small quantities and passes out of the system probably as urea, is found in general paralysis in amounts large enough to cause its characteristic effect of lowering the blood-pressure. Another product, neurine, which is thought to be sometimes produced in degeneration, has highly toxic qualities. The amount of proteid matter in the cerebro-spinal fluid in general paralysis is three times the normal and experiments seem to show that it would favour an occurrence of congestive stasis and even thrombosis in this disease. Dr. MOTT is inclined to attach much weight to this influence in causing special changes in the frontal and central convolutions because the veins from these ascend into the longitudinal sinus, and even open into it, so that the blood from them enters in a direction opposite to the current in the sinus. But it is to be noted that the current in this part of the sinus is very feeble and the influence of the descending blood in the posterior part is probably sufficient to prevent much tendency to stasis. If the mechanism were really effective, actual thrombosis in the veins of this part should be a more frequent incident in general paralysis than it is.

The close pathological relationship of general paralysis and tabes, which has been widely recognised, and formed the subject of a discussion at the Pathological Society which was opened by Dr. MOTT, is discussed in his fourth lecture. It is more than 20 years ago since WESTPHAL pointed out the frequency with which the posterior columns of the cord are degenerated in general paralysis of the insane, and the frequency with which the symptoms of the two diseases are combined, the frequency with which those of one or the other predominate or are chiefly manifested in the early stage of the disease, has been repeatedly noted. In the cases in which the combined symptoms are present, some special symptoms characteristic of tabes may occur in general paralysis when pronounced tabetic symptoms are absent. Of this Dr. MOTT gives many striking illustrations. The occurrence of loss of the reflex action of the iris to light has been frequently observed in general paralysis, and some instances are given of perforating ulcer of the foot and of tabetic arthropathy in this disease. In many of the combined cases in which the symptoms of tabes lead the way, these continue slight, remaining in the "pre-ataxic" stage after the mental affection has developed. The lecturer has had a unique experience of juvenile general paralysis and finds it associated with congenital syphilis just as juvenile tabes is known to be. He regards the two diseases—tabes and general paralysis—as really one, affecting sometimes the neurons which associate different parts of the central and frontal convolutions and in others the neurons of the posterior ganglia of the cord. The only objection to this which can be taken depends on the conception attached to the word "disease" and on the importance to be given to distinctive symptoms presented by a similar process in different regions.

There is, of course, a very large amount of assumption in Dr. MOTT'S lectures, and its quantitative estimation is a task for which very few can present the requisite knowledge. This does not lessen their value, because a careful reader can discern where the process comes in. Suggestion is precious if only it is taken as it should be—as an indication of the direction in which to look for truth. The field of science which he has ploughed with remarkable skill is in the most advanced region into which pathological knowledge has penetrated. It is certain that his lectures, fruitful as they are, will have far more prolific results from the investigations to which they will give rise.

But their admirable character and the manifest extent to which they are dependent on the opportunity and facilities afforded by the arrangement of the London County Council excite in us one regret. We should like to see the therapeutics of insanity investigated in a manner equally thorough and equally scientific under the same auspices. At present individual symptoms are relieved and all available external circumstances are combined to facilitate recovery, but how seldom is any systematic effort made to influence the course of disease by medicinal treatment. It is regarded as useless, and the belief that it is so is the cause of the absence of effort. The experience of many physicians outside

asylums testifies to the fact that even in general paralysis wisely ordered medicinal treatment is not seldom strikingly beneficial, but we hear little of attempts thus to influence the disease in asylums. The lectures of Dr. MOTT contain abundant evidence of the influence of certain definite substances of known chemical composition in causing disease. There is sufficient evidence also that drugs of definite composition may be employed to relieve or cure disease. We confess that we should be glad to hear that the London County Council has ordered a wing of one of its asylums to be set apart for cases, carefully selected, each one of which should be subjected to systematic treatment by suitable chemical agents, the results of which should be closely and persistently observed, recorded, and ultimately reported for the general good. No doubt most alienists will regard the suggestion as visionary, but we do not doubt that many of our readers who have had opportunities of observation will agree with us that the results would not improbably justify its adoption.

ALL members of the medical profession in this country must feel desirous of seeing the matters in dispute between the Council of the British Medical Association and a large section of the members of the Association amicably settled. Even the most advanced members of this section would disclaim any wish to weaken the power of the Association or to diminish its numbers. But the difference of opinion between the Council and those who succeeded in defeating it at the special meeting in Exeter Hall on July 18th is considerable and this fact must be faced. It does not seem to us that matters are incapable of adjustment if a little moderation on both sides be observed and clear ideas be kept in the ascendant as to the nature and the objects of the Association. The general meeting at Exeter Hall had an importance which general meetings of the Association, and conspicuously the general meetings of the annual congress, have not often had. It had the importance of numbers, coming in this respect nearer to what a general meeting of an association with 17,000 members or more should be. Comparatively small numbers always assemble at general meetings of the profession to discuss alleged grievances—a fact which shows that after all we are a profession and not a trade and that scientific and professional questions have a charm for us that ethical and social questions have not. At the annual meetings of the Association it is difficult to get a general meeting together with a larger attendance than 50 or 60. Dr. J. R. THOMSON, the chairman of the Council, says that 30 is a good average attendance for these general meetings. But at the Exeter Hall meeting last week there was an attendance of 270 or more when the Council failed to obtain the requisite majority of three-fourths for the adoption of the new Articles of Association.

We need not here enter into all the details of difference between the Council and those who defeated it, but it would be foolish to make light of the difference or to neglect any reasonable means of removing it. The essence of the difference is that the Council think it best for the Association that the management and control of the business and affairs of the Association, including the disposition and expenditure of its funds, should rest with the Council, while the majority of the members present at the Exeter Hall meeting consider that the individual members of the Association acting through general meetings should have more power. The Council at the Exeter Hall meeting submitted a new set of regulations embodying their views and the thirty-fifth clause of these new articles[1] is the one round which the chief contest rages. This clause gives to the Council the important powers to which we have alluded, vesting the whole business conduct and pecuniary discretion of the Association in the Council practically without appeal. It is very natural that the members should wish for more powers, but it is obvious that these can only be exercised mediately. 17,000 men cannot all govern an association. Some means must be found of easily ascertaining the views of the majority of the members and of securing for them complete expression in the Council. The difficulty is to ascertain what the real majority of members actually think. A mere general meeting does not necessarily help much towards finding this out. As we have seen, these meetings are generally scantily attended, and are not unfrequently monopolised by a few louder voices. Of one thing we are certain. To make the Council mere delegates, every councillor being pledged to vote in accordance with the views of his constituency, would be an unsatisfactory way of governing the Association. Men who have to give the last judgment on a question of importance should be in a position to hear all sides of it and to decide accordingly. For a member to issue a post-card to the Council with a cut-and-dried deliverance on a difficult question and for this deliverance to bind the executive of an association with 17,000 members would be an easy and flattering way of governing so far as the member is concerned, but not one that would be likely to conduce to the moral, scientific, or financial reputation of the Association.

A few well-attended general meetings at which some plain speaking on both sides might be advisable, would do much to effect a reconciliation of view between the Council and the members. It will probably be found that the best way of increasing the attendance at general meetings and their authority will be to hold them separately from the annual meeting at some convenient centre. The Ipswich meeting will have a great advantage in following so closely on the discussion at Exeter Hall, and it is to be hoped that all parties will come together with a disposition to find a *modus vivendi* which, while securing respect for the opinion of members of the Association, will leave the chief control over its business and expenditure with the Council. There is no derogation from the function of members in leaving such control with the Council so long as members have due control over the election of the Council, any more than it detracts from the English constitution that the House of Commons has control over the public purse. The number of the Council exceeds that of the average general meeting, and it is an elected body representing more or less all the members. Such a body cannot be called an autocracy or

[1] See Brit. Med. Jour., July 7th, p. 84, et seq.

an irresponsible junto. It will not conduce to the stability and influence of the Association to lessen the responsibilities of the Council or to make it too easy for a small number of members to tamper from time to time with its regulations and by-laws. And as long as general meetings are so sparsely attended their views must be regarded as the views of a small number.

THE First International Congress on Medical Ethics or Deontology commenced its sittings in Paris on Monday, July 23rd, and comes to an end to-day, Saturday, July 28th, thus overlapping the Congress of the Medical Press and impinging upon the great International Congress of Medicine. The plethora of congresses arranged to take place in Paris during the end of July and the beginning of August should have led to larger attendances for the view that the medical man interested in any one of them, finding himself in Paris, would inevitably attend them all, was a probable one. As a matter of fact, however, a great many medical men, especially English medical men, have been frightened away by the fear of finding Paris over-full of the medical world. In England other abstentions have been due to the fact that the British Medical Association meets at Ipswich during the first week in August and also to a widespread feeling that the attitude of France, especially of Paris, is so inimical to England that the Englishman is better away from the beautiful city of pleasure. We trust that even if the attendance be a little sparser than was expected the proceedings at the Congress of Deontology will be thoroughly successful, for the work that it proposes to do lies very near our heart. It is impossible that a body of earnest men, attending either as delegates from ethical bodies or on account of their own individual work in ethical fields, can deliberate carefully upon the important practical questions comprised under the phrase "deontology" without some good accruing to the medical profession. We are aware that the different customs of different nations no less than the various ways of regarding social problems of all sorts preclude any idea of an international code of medical ethics being established; but medical men of all nations will be benefited by learning what situations are created in other countries than their own by hospital abuse, by quackery, and by lay exploitation. On p. 275 of our present issue will be found a report from our special correspondent of the proceedings at the First International Congress on Medical Ethics, and the success that has already attended the formation of medical unions in Austria and Belgium should encourage those members of the British medical profession who have made practical attempts in this country to the same end.

Annotations.

"Ne quid nimis."

THE PATHOLOGY OF INSOLATION.

AT a recent meeting of the New York Academy of Medicine Dr. Ira van Gieson read a paper on sunstroke, a subject which has just now a special importance. The pathology of this affection was still unknown. The symptoms and manifestations had interesting resemblances to those of poisoning by snake venom, while the loss of consciousness and the convulsive and tetanoid seizures brought it into relationship with the coma of diabetes and uræmia in particular. Among the pathological theories two occupied a prominent place. The caloric theory stated that the symptoms were due to the direct action of excessive heat on the body, and important facts illustrating or confirming this view were furnished by the experimental investigations of Goldscheider and Flatau, Ewing, and others, who had found certain characteristic (destructive) lesions in the cerebral and spinal nerve-cells of animals submitted to artificial hyperthermia which ended fatally with symptoms resembling those of sunstroke. Dr. van Gieson points out that these changes might be secondary to changes in the blood brought about by exposure to the excessive heat to which these animals were subjected. The toxic or autotoxic theory sought to trace a toxic agent which circulating in the blood acted on the nerve-centres as a poison. He stated that his investigations and experiments at the Pathological Institute in New York during the epidemic of sunstroke in 1896 convinced him that the disease was due to an acute toxæmia originating somewhere in the body and acting violently on the nervous system, particularly on the cells which governed the heart and controlled the vaso-motor apparatus. The delirium, convulsions, opisthotonos, and mental derangement could be partly explained as the outcome of such a poisoning of the nerve cells by an agency of autogenous origin. In cases which resulted in recovery within a few hours there was probably very little degeneration of the ganglion cells. Between this grade and that in which the cells were permanently damaged there were probably many intermediate conditions. "The source of the poison, as well as its relation to the cessation of perspiration prior to and during the attack, were unknown. The sudden onset of the disease favoured the autotoxic theory." Experiments on animals made by Dr. P. A. Levene showed that the blood of patients suffering from insolation contained a poison the virulence of which was as great as that of some snake poisons and in some respects resembled their action. The urine of convalescent patients when injected into the circulation of rabbits was found to produce decidedly toxic results, and injections of blood serum taken from two patients gave prompt and decisive results. The two classes of animals which perspired most—viz., human beings and horses—were the ones which showed the most marked classical symptoms of sunstroke. Probably the pathogenesis of sunstroke could be formulated somewhat as follows. The exciting cause in the form of excessive external heat induced a change in the blood the nature of which was unknown. As a result of this an angio-paresis resulted, this being probably caused by a paralysis of the vaso-constrictor nerves due to the toxic action of the altered blood. The cessation of perspiration in the subject of sunstroke and the accumulation of carbonic oxide in the blood were concomitant with the angio-paresis. With the angio-paresis and the accompanying stasis of blood in the vessels began the hyperpyrexia, for they interfered with the free radiation of heat from the cutaneous surfaces to the extent of 80 or 90 per cent. The toxic condition of the blood acting upon the cerebral nerve-cells produced loss of consciousness. The best working hypothesis, sustained to some extent by the few facts definitely ascertained, pointed to an auto-intoxication of somewhat sudden origin. It was interesting to observe that as in the cases of persons dying from snake-poisoning the post-mortem clotting of the blood was retarded. In the discussion following the reading of the paper Dr. P. A. Levene observed that in sunstroke there were a marked diminution of the urine secreted (ischuria), a decrease in the quantity of urea and other ingredients, and the specific gravity of the urine was lowered. This fact could not be explained by postulating an organic change in

the kidneys, such as parenchymatous nephritis, as no albumin or casts could be detected in the majority of cases. Pfaff of Harvard had recently demonstrated that defibrinated blood influenced the function of the kidneys in a similar manner to that produced by sunstroke. This would suggest that extreme heat produced changes in the blood similar to that produced by defibrination, or probably even rendered the blood less coagulable than normally. The latter fact was observed by some pathologists in cases of sunstroke and would be a corroboration of the autotoxic theory. Dr. George M. Parker, who was a resident physician in hospital at the time of the epidemic of sunstroke in 1896, said that the mortality was 66 per cent., death occurring in from 12 to 36 hours after the onset of the attack. The symptoms were those of an acute general poisoning. Comparatively few cases of sunstroke occurred until the hot weather had lasted for several days. Dr. Charles A. Whiting, referring to the same epidemic, emphasised the statement that the cases were rare during the first two or three days of the hot spell and then began to multiply rapidly.

THE RELATIVE VITIATION OF THE AIR OF ROOMS PRODUCED BY VARIOUS HEATING AND LIGHTING APPLIANCES.

"WHEN a coal fire is in use for heating and the electric light for lighting an inhabited room the air is purer than by any of the other plans tried for heating and lighting." Such is, perhaps, the most important conclusion arrived at in an interesting investigation on this subject by Mr. Francis Jones, F.R.S. Edin., F.C.S. The results are published in a *brochure* which has recently reached us. This conclusion may have been anticipated when the conditions described are considered. But Mr. Jones's investigation has led to other observations which are not less in point of interest as bearing upon the question of the healthy condition of domestic apartments. He finds, for instance, that the air of a room, however heated and lighted, is purest at the floor, less pure three feet above, and most impure at the ceiling, and that when a gas fire is in use for heating and the electric light for lighting the amount of carbon dioxide in the room rises rapidly in the first two or three hours and then remains uniform for three or four hours afterwards. When a coal fire is in use and an ordinary gas-jet is burning the air of the room is purer than when a gas-fire is in use and an ordinary gas-jet burning. The use of a gas cooking-stove with a flue connected with the chimney greatly raises the amount of carbon dioxide in the air of the room. The humidity of the air of the room is much diminished by the use of gas-fires. We do not find any reference to the work of THE LANCET upon this subject, but if Mr. Jones will refer to the report of THE LANCET Special Analytical Sanitary Commission published in THE LANCET of Nov. 25th, 1893 (pp. 1326–1336), dealing with gaseous fuel, gas-heating, and gas-cooking appliances, and also to the report of the same commission on the Incandescent System of GAS Lighting, published in THE LANCET of Jan. 5th, 1895 (pp. 51–55), he will see that some of the conclusions there arrived at are in harmony with his own, and he will find also other results of equal interest in connexion with this subject. Mr. Jones, however, has made a useful departure by employing permanganate of potassium for the estimation of impurities over and above carbonic acid, which has no effect upon permanganate. Oddly enough, although the permanganate tests determine different impurities from those of the carbon dioxide tests there is a remarkable agreement between the two sets of experiments. Thus when the carbon dioxide is low the permanganate is only slightly affected; when it is high the permanganate is greatly altered. The question remains as to what the concomitant impurity is. The results are so parallel as to suggest a product of combustion produced uniformly with the carbonic acid. May this not be due to the sulphur ever present, though in small quantity, in coal gas? It should be remarked that weak solutions of permanganate of potassium undergo deterioration in a pure atmosphere, and this raises a doubt as to whether the method is reliable. Still, the results certainly show a remarkable uniformity. We should like to suggest to Mr. Jones that in continuing his interesting experiments he should try the effect of oil lamps. The results would be of interest since oil burns into little else than carbonic acid and water and the question of sulphur would not obtain. The permanganate method adopted by Mr. Jones was that of exposing a solution of permanganate of potassium in a shallow porcelain tray and afterwards estimating by a well-known method the reduction effected in the strength of the permanganate.

THE NOBLE OFFER OF THE MAHARAJAH OF GWALIOR.

IN the House of Commons on the night of July 23rd various questions were asked as to what provision had been made for the care of British wounded in China. Lord George Hamilton in answering said that the Government of India have provided a hospital ship and were preparing to convert three transports into hospital ships. The American hospital ship *Maine* had also been placed at the disposition of Her Majesty's Government, and he begged to express the gratitude of the country to those who had provided and furnished this ship. He was able to inform the House that his Highness the Maharajah of Gwalior had offered to equip fully a hospital ship for China at the expense of 20 lakhs of rupees. This princely offer was made by the Maharajah on behalf of himself, his mother, and his wife, in testimony of their loyalty to the Queen-Empress. This statement was naturally received with loud cheers. At the present exchange 20 lakhs of rupees represents, we suppose, something between £120,000 and £130,000, a gift which is indeed worthy the tradition of Oriental munificence. The century is closing amid stress and trouble of every kind, but never perhaps before have the various items composing the British Empire been so united in their loyalty to the Sovereign. If feudalism has passed away there yet remains the old feeling of faith owed to the head of the body politic, and from the lowliest trooper who is serving his Sovereign to the great native Princes of India there is but the one idea of faithful service.

MEDICAL EXCURSION TO FRENCH MINERAL WATER RESORTS.

OUR Paris correspondent has already announced the forthcoming excursion and we now give some further details. The next Voyage d'Études aux Eaux Minérales Françaises will last from Sept. 2nd to 15th and will be taken up with visits to localities in the south-west of France, including Luchon, Capvern, Bagnères de Bigorre, Argelès, Baréges, Saint Sauveur, Cauterets, Pau, Eaux Bonnes, Eaux Chaudes, Saint Christau, Salies de Béarn, Biarritz, Cambo, Sanatorium d'Hendaye, Dax, and Arcachon. For the similar excursion held in 1899 the locality selected was Central France and Auvergne. The party will consist exclusively of medical men and medical students, who may be of any nationality. The scientific part of the programme has been entrusted to Dr. Landouzy, Professor of Therapeutics in the Paris Faculty, who has arranged for the holding of discussions in different places on the therapeutic applications of mineral water. Luchon will be the starting-point of the expedition, and all the French railways will carry foreign medical men at half the ordinary rates both to Luchon from the place at which they enter France, and also on their homeward journey from Arcachon to the frontier station

where they first arrived. For the trip from Luchon to Arcachon an inclusive charge of 300 francs (£12) will be made to cover all expenses of railway travelling (in special trains), carriage drives, hotels, food, conveyance of luggage, and gratuities. Every information may be obtained from Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, by whom the excursion has been organised. Names of those intending to join the party will be received up to August 15th.

HÆMORRHAGIC EFFUSIONS INTO THE PLEURAL AND PERITONEAL CAVITIES (PLEURO-PERITONITIS) FROM ALCOHOLISM.

INFLAMMATORY effusions occupying simultaneously the pleural and peritoneal cavities are usually due to cancer or tubercle. The following case related by M. Fernet at the meeting of the Société Médicale des Hôpitaux of Paris on June 22nd is remarkable in that neither of these diseases was present, and, further, in that the effusions were hæmorrhagic, a circumstance which is sometimes the result of tuberculous, but usually of cancerous, infection. A man, aged 50 years, entered hospital with intense dyspnœa and mental confusion. He was evidently addicted to alcohol. His illness was of several years' duration. He first had alternating diarrhœa and constipation. Then, two years before, he noticed that his abdomen was enlarging and he felt pains in the right side of the chest. For several months his condition remained stationary, but seven or eight weeks previously to his admission it became suddenly aggravated and he then felt increasing oppression. On examination a large pleural effusion extending nearly to the clavicle was found on the left side. The heart was displaced and pulsated just inside the right nipple. There was a considerable effusion in the abdominal cavity. The lower border of the liver extended below the ribs for a distance of two or three fingers' breadth. There was diarrhœa and the urine contained a trace of albumin. To relieve the dyspnœa puncture was decided upon. Thoracentesis gave issue to dark sero-sanguineous fluid the flow of which was arrested when one and a half litres (42 ounces) had been withdrawn. The patient was relieved and pulmonary resonance and murmur returned in the upper part of the affected side. He was put upon a milk diet. Later abdominal puncture was performed, which gave exit to two litres of fluid similar to that which had been withdrawn from the pleural cavity. Numerous red corpuscles were observed in the fluid. No evidence of cancer or tuberculosis could be found. 550 cubic centimetres of urine containing 16·9 grammes of urea were excreted in the 24 hours. Thoracentesis was performed a second time and one and a quarter litres of fluid were removed which appeared completely to empty the pleural sac. Ten days later, however, it was again full. A third operation gave exit to one and a half litres of similar fluid. The patient became worse: at intervals he had delirium and periods of complete mental cloudiness; the respiration was irregular and of the Cheyne-Stokes type. These symptoms were attributed to uræmia. The renal permeability was tested by the administration of methylene blue. The excretion lasted for five days and was therefore much delayed. He died from uræmia. At the necropsy sero-sanguineous fluid was found in the peritoneal cavity. The intestines were glued together by thin and fragile lymph, indicating recent inflammation. The intestinal peritoneum was cyanosed and blackish in parts, as if ecchymosed. The question arose whether oozing of blood had not taken place and given to the effused fluid its sanguineous character. The liver was enveloped in a whitish fibrous coat at least a millimetre in thickness. The organ was in the condition of atrophic cirrhosis. The spleen had a fibrous covering similar to that of the liver. The capsules of the kidneys were removed with difficulty and the cortex was sclerosed. The left pleural sac contained sanguineous fluid. The right pleura and the pericardium were everywhere adherent. Evidently there had been inflammation of these membranes. Microscopical examination showed renal and pulmonary cirrhosis. M. Fernet attributed all the lesions to alcoholic irritation. Possibly the sanguineous effusions were produced through the medium of the hepatic and renal cirrhosis and the concomitant vascular changes. The fact that these effusions can result from other causes than cancer or tubercle is the important point shown by the case. In the discussion which followed M. Galliard pointed out that in his work, "Les Hémorragies Pleuro-pulmonaires de la Cirrhose," he had shown that hæmorrhagic pleurisy was not rare in cirrhosis of the liver. In THE LANCET of Nov. 11th, 1899, p. 1286, Dr. G. S. Middleton has recorded a case of hæmorrhagic ascites in cirrhosis of the liver (in an alcoholic subject) and pointed that this complication is practically unrecognised. An annotation on "Primary Hæmorrhagic Effusions into the Pleuræ and Peritoneum"[1] and an article on a case of hæmorrhagic ascites published by Dr. Theodore Fisher[2] may also be compared.

PLAGUE IN TURKEY.

ON July 16th Dr. Vouros, sanitary inspector of Beyrout, telegraphed to Constantinople that he had on that day in company with several military and civilian medical men visited four patients employed at a shop in the centre of the city. The extraction of sesame oil was the business carried on at this place. The ages of the patients were from 12 to 25 years. The youngest had been in bed for four days; he had a bubo of the size of an egg in his axilla and a small bubo in Scarpa's triangle; his temperature was 40·5° C. (105° F.); he suffered from vomiting, headache, and mental vacuity. Of the three other patients one had been in bed for four days and the other two for eight days. All three had inguinal buboes, painful on pressure, non-adherent to the skin, and of moderate size; their temperatures were about 38° or 39° C. They complained of headache, but did not vomit. There were no lesions of the skin of the lower limbs on the same side as the buboes. All the patients were Mahamedans from Lebanon. Three had been working in the same shop for several months, but the fourth only for 12 days. A fifth patient, a male, aged 16 years, had been ill and had recovered; he did not exhibit more than an indurated inguinal bubo. All these cases were suspected to be plague and were isolated, their surroundings being at the same time disinfected. Fluid aspirated from the buboes has been examined microscopically by Dr. Férid-Ibrahim, and culture experiments have been made with rabbits, but positive results have not yet been reported. The Conseil Supérieur de Santé has ordered 10 days' quarantine for arrivals from Beyrout. No fresh case of plague has been registered at Smyrna since July 8th.

SULPHONAL HABIT ENDING FATALLY.

Dr. A. E. Taylor and Dr. J. Sailer have published an interesting case in the volume of "Contributions from the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania," just issued, illustrating a somewhat rare condition resulting from the habit of taking sulphonal. The case was that of a woman, aged 52 years, unmarried, and presenting symptoms of hysteria. On inquiry it was discovered that she had been in the habit of taking sulphonal for some time, the dose being 15 grains per diem. She was informed of the evil results likely to follow the continued use of the drug and she discontinued its use for

[1] THE LANCET, Oct. 14th, 1899, p. 1028.
[2] THE LANCET, Jan. 6th, 1900, p. 17.

some weeks. After this she resumed taking the drug and began speedily to exhibit all the symptoms of sulphonal poisoning—viz., mental confusion, marked insomnia, difficulty of speech, and a peculiar sighing dyspnœa. The urine was tinged a deep pink colour (hæmato-porphyrinuria) and a stiffness and paralysis of both legs soon developed. The control of the sphincters was lost. Cutaneous sensibility was not affected. The paralysis spread rapidly upwards and death resulted from cardiac failure. Spectroscopic examination of both urine and blood disclosed the presence of hæmatoporphyrin. At the necropsy the following conditions were revealed. Fatty degeneration was present in the heart, liver, and kidneys. The spleen was filled with a greenish pigment, both free and within the lymphoid corpuscles, the fibrous trabeculæ were greatly increased in size, and the lymphoid follicles were extremely well developed. Excessive pigmentation was found also in the lymphatic glands of the body and in the lungs. No notable morbid changes could be found in the spinal cord or brain. Cases of sulphonal poisoning are rare, and a case like the above in which the necropsy disclosed lesions of a characteristic nature in the various viscera of the body is rarer still and possesses much importance both from a diagnostic and pathological standpoint. It is interesting to note, however, that hæmatoporphyrinuria—an indication of serious alterations taking place in the blood—from the use of sulphonal is nowadays less frequent than in the earlier days of the use of sulphonal when the drug was not always obtained in a state of purity.

ON THE EXCITABILITY OF NERVOUS MATTER.

DR. AUGUSTUS D. WALLER in his presidential address to the Neurological Society published in the spring number of *Brain* dealt with the subject of the excitability of nervous matter with special reference to the retina. The general argument was that "a sigmoid curve expresses the ratio between physical stimulus and physiological effect as well as between physical stimulus and psychological effect," this being a development of the well-known Weber-Fechner law of physiology. The main argument was developed as follows. A nerve separated from its natural termini, isolated from the rest of the organism, gave no sign of life when excited except an electrical change which could be measured and demonstrated with accuracy by suitable apparatus. The electrical response given forth by a living tissue was one of the most general and most delicate signs of life, and a nerve was "an almost ideal sample of living matter upon which to test the comparative effects of all manner of reagents when the galvanometer was made its organ of expression." Living tissue, inasmuch as it *is* living, is also dying tissue, ceaselessly evolving energy and ceaselessly "restoring" it. This double chemical activity, of which living matter is the centre, manifests itself by actual chemical and structural changes when it is sufficiently intense or prolonged, but its weakest and briefest pulsations are manifested by electrical changes. At the moment of exposure of the retina to light and at the moment of cessation of the light-stimulus characteristic electric changes were present, and these curves of electrical variation could be registered on a photographic plate suitably arranged. A latent period occurs at the "making" of the light-stimulus, "a period of hesitation during which a tug-of-war, so to say, is taking place in the retina between two opposite forces or processes, positive and negative, that for a period counterbalance each other in the circuit." A similar, if less pronounced, opposition of forces occurs at the end of illumination, when the forces cease to act. During the continuance of the light-stimulus, however, the positive force rises and remains the stronger, whereas when the stimulus has ceased the negative force rises into prominence gradually. The reactions in an injured or moribund eyeball are different from those of a fresh eyeball excised with the least amount of injury. In regard to the action of colours Dr. Waller, after referring to the theories of Helmholtz and Young on the one hand and Hering on the other, finds that in all cases "different colours give rise to electrical effects in one direction, though of varying magnitude." To quote an instance, the galvanometric deflections gave for red light four units, for blue nine, for green 12, and for yellow 16. It was further proved that, taking two very weak colour-stimuli conjointly—e.g., red and green—the united effect of both stimuli was always greater than either of the separate effects, and not far short of their sum, and that a retina, subsequently to prolonged green or prolonged red stimulation, exhibits equal fatigue to green and to red stimuli. These experiments refer to the frog's retina. Further, the presence and significance of fatigue in nerves was investigated and Dr. Waller concludes that medullated nerves are practically not liable to fatigue, whereas non-medullated nerves, as shown by experiments conducted by Miss Sowton on the olfactory nerve of the pike, appear to suffer readily from exhaustion and fatigue as muscle does. Dr. Waller concludes from the curves obtained as the results of experiments made with gradually increasing stimuli on retina and nerve that a sigmoid curve represents more faithfully than Weber and Fechner's logarithmic curve the relations of stimulus and sensation. The curve in its early stages rises very slowly, then more rapidly, and, finally, it rises more slowly again. And an apt psychological illustration of this is given by language. In the learning of language we know that the first steps cost much and that acquisition is at first very slow. "Then the upward progress becomes more rapid, successive equal increments of energy give successive increasing increments of knowledge; finally, progress slackens, and the last steps towards perfection cost energy far in excess of those taken within the range of mediocrity." Dr. Waller's studies throw an interesting light upon the problem of nervous development.

MASSAGE AS AN OCCUPATION FOR THE BLIND.

THE occupations which can be undertaken by the blind with any hope or prospect of being remunerative and of enabling them to contribute to their own support are unfortunately few in number. Brush-making, mattress-making, basket-making, bookbinding, and piano-tuning, almost complete the list for the less intelligent; tutorial work is occasionally undertaken, though few can hope to be brilliant professors like Penjou the mathematician or like Saunderson of Cambridge. There is, however, a restricted field open to those who have sufficient ability to qualify themselves for the post of organist. We are informed that a small committee of gentlemen and ladies who are interested in the welfare of the blind have resolved at some cost to themselves to make an effort which they trust will receive the favourable support of the profession to introduce a new industry for those who are so unfortunate as to have lost their sight. It is that of massage. It is said that it has been found by actual experience that massage as performed by blind people can be as efficiently practised as by those who see and that their delicacy of touch and intelligent manipulation have been fully appreciated by those placed under their care. It is proposed, if funds will allow, that rooms should be taken in some central situation under the control of a matron who should be in communication with a certain number of thoroughly educated blind masseurs and masseuses. To these rooms physicians and surgeons could send their patients, or if it were preferred, from this centre, as in the case of other nursing establishments, a male or female blind expert could be sent into the country. The blind are clever in making their way about and it is

not apprehended that any difficulty will be experienced in enabling them to reach their destinations, whilst when once they have made themselves familiar with a house their gentleness, quietness, and cheerfulness would be certain to render them satisfactory temporary inmates. Information in regard to the Institute for Massage by the Blind can be obtained from the honorary secretary, Mr. F. Talfourd Chater, Oxford House, Bethnal-green, E.

ANGINA EPIGLOTTIDEA ANTERIOR.

THE *Albany Medical Annals* for July contains an important paper by Dr. C. F. Theisen on this rare affection. "Angina epiglottidea anterior" was the name given by Michel in 1878 to an inflammatory process involving the anterior surface of the epiglottis, as a rule confined to it, and accompanied by more or less œdema, which is the characteristic feature of the affection. The larynx itself may be affected to a certain extent. The disease may be primary, or secondary to acute inflammation of the tonsils, pharynx, or lingual tonsil. The following cases are described in the present paper. Case 1.—A man, aged 36 years, was seen on the second day of an illness which had supervened while he was in good health. Sitting in a chair, with anxious countenance, he complained of a severe sharp sticking pain at the base of the tongue when he attempted to swallow. Attempts to swallow even a few drops of water brought on severe attacks of choking and coughing. There was pain when he moved his tongue and severe headache and anorexia were present. His voice was clear and there was no dyspnœa. The pharynx was not reddened. The anterior surface of the epiglottis was intensely inflamed, of a uniform bright red colour, and œdematous. The larynx was practically normal. The temperature was 101° F., and the pulse was 110. An iced ichthyol spray, one-half per cent. solution, was used every 20 minutes, and an ice pack was applied round the neck. Ice was also frequently taken. On the next day the inflammation had subsided considerably, but there was still dysphagia. On the fifth day he was practically well, though the inflammation did not entirely disappear for several days more. Case 2.—A woman, aged 40 years, in good health, became restless and feverish and had great pain and choking when she attempted to swallow. There was dyspnœa on lying down which compelled her to sit up. The anterior surface of the epiglottis was reddened and so œdematous that the laryngeal entrance was partly closed. The vocal cords were slightly reddened and there was some swelling of the left ary-epiglottic fold. The temperature was 102° and the pulse was 120. Calomel was given and similar treatment to that employed in the previous case was adopted; later in the day, as breathing was still difficult, free scarification was performed which gave some relief. She was much better on the next day and in a week she felt well, although the epiglottis did not become normal for several days more. After the scarification cultures were taken from the epiglottis which showed mixed infection by the staphylococcus albus and pneumococcus. The reason why an œdematous condition of the anterior surface of the epiglottis does not involve the larynx is anatomical. Hayek has shown that the submucosa of the anterior surface is abundant and that the mucosa is not tightly adherent, while on the laryngeal surface the mucous membrane is tightly adherent. But when the œdema is very great it may extend by way of the thin mucous tissue of the pharyngo-epiglottic ligament to the ary-epiglottic folds. As to the causation, angina epiglottidea anterior may result from injury, such as swallowing irritant fluids or substances, or from the inhalation of pungent vapours. It may be part of a general œdema of the fauces resulting from large doses of iodide of potassium. It may occur during infectious diseases, such as measles, erysipelas, septicæmia, &c. Very often it is an acute primary process.

THE HOLIDAYS AND LOCUM-TENENTS.

THE time of holidays is come—for patients. It is not so easy to see how medical practitioners are to secure their much-needed change. With the majority of medical men—perhaps a larger majority than some of us think—taking a holiday is a rare and difficult matter. We remember once to have met a worthy practitioner in an old town of Surrey who had practised for 40 years and had only once had a holiday—and that was when he had typhoid fever! At the present moment the obstacles are unusual. The abolition of the unqualified assistant and the demand for medical men in the naval and military services and abroad are such that a locum-tenent has become an expensive luxury. There seems to us to be only one way out of the difficulty. Medical men must come to terms amongst themselves. They should meet and arrange to give each other holidays; this has its inconveniences, but they must be faced. Such action on their part will moreover have a good effect on the tendency of locum-tenents to over-rate their services. We are not sorry that they are more appreciated than they used to be. Nothing can be more valuable in its way to a medical practitioner wanting a holiday than to know a gentleman of character and ability to leave behind him as a locum-tenent. It doubles the rest of a holiday to be able to leave his patients in the care of such a friend. And they have not always been adequately appreciated. The danger now, however, is the other way—namely, lest they should expect a rate of remuneration more than general practice will bear. The error will be the sooner corrected if medical men in their own neighbourhood and amongst each other agree on a system of mutual help.

LOCAL ANÆSTHESIA AND NARCOSIS.

DR. CARL LUDWIG SCHLEICH contributes to a recent issue of the *Berliner Klinische Wochenschrift* (No. 13, 1900) a long and valuable article embodying the results of his more recent experiences in local infiltration anæsthesia, a subject previously referred to in these columns.[1] He proclaims that it is coming more and more into general use and must in many instances supersede general anæsthesia where the latter may be attended with danger. Infiltration anæsthesia properly conducted is, according to Dr. Schleich, absolutely without danger, owing to the very small amount of the anæsthetic used locally, and it is particularly indicated in all tumours and neoplasms of the skin and subcutaneous tissues—e.g., fibroma, nævus, angioma, lipoma, in most plastic and superficial operations such as tenotomies, excisions of scar-tissue, ganglion, transplantations, and the suturing of fresh and recent wounds and injuries, and for dermoids, chancroids, and sarcomata. The *modus operandi* is to fill the entire skin and subcutaneous tissue at and around the site of the intended operation with the infiltration fluid and to infiltrate the tissue no more than is necessary. In nervous patients the needle-pricks of the hypodermic syringe may be made painless by the application of ethyl-chloride spray. Major amputations may be performed as well as operations on the abdomen (herniotomy and cœliotomy). In injecting the fluid for operation on boils, carbuncles, or abscesses it is necessary to begin the infiltration on the surrounding healthy and non-inflamed tissue. For operation on the fingers or toes the method practised by Oberst—viz., that a ligature should be tightly applied at the base of the digit, after which injection may be made into the

[1] THE LANCET, April 29th, 1899, p. 1171.

subcutaneous tissue—is recommended. The pressure of the blood in this case causes œdema and aids the infiltration to diffuse readily and evenly throughout the finger in about half a minute. Cocaine and its derivatives, tropococaine and nirvanin, are the drugs most employed. Referring to the subject of narcosis or general anæsthesia Schleich recommends that a special solution as follows be used in cases where general anæsthesia is imperative—viz., ethyl chloride one-half to two parts, chloroform four parts, sulphuric ether 12 parts—and he states that he has used this mixture in about 5000 cases without any bad symptoms resulting. Local anæsthesia has been extensively adopted in amputations, resections, and operations on bones (Rubinstein), in gynæcological operations (Abel), and in ophthalmic operations (Wurdemann), as well as for costal resection, urethrotomy, hydrocele, hæmorrhoids, and fistula, &c. Schleich has in 250 cases used the infiltration method in operating on medical men, and with success. As in other papers on this subject, there is less said about the dangers of local anæsthesia than is perhaps advisable. Even when the obvious dangers of sepsis are omitted, since with due care they can be almost eliminated in hospital work provided their presence is appreciated, there yet remain drawbacks to the use of the infiltration method. The average patient does not go through a severe operation even when rendered analgesic—for analgesia and hardly anæsthesia is obtained in Schleich's method—without considerable shock and nerve prostration. There is always the fear that he is going to be hurt, besides the actual sickening pain when the viscera are being handled, which in some cases produces faintness, even collapse. It must be conceded that, valuable as the method is, it should be used as an adjuvant to, rather than as a supplanter of, general anæsthetics.

PLUMBERS' APPRENTICESHIP.

IN London, and, indeed, in the southern counties generally, the system of apprenticeship in the plumbing trade has been gradually dying out, while the plumbers' ranks, as a rule, have to be recruited from a class of men known as plumbers' mates; now the master plumbers, together with the operatives, have at length recognised the importance of this fact. They are of opinion that it is a system alike injurious to the best interests of the London plumbing trade and to the public health. A joint board has therefore just been formed under the influence of the Worshipful Company of Plumbers consisting of certain elected members of the London Society of Associated Master Plumbers together with representatives from the London lodges of the United Operative Plumbers. The aims of the board are to encourage the taking of apprentices under an agreed form of indenture; to exercise a certain control over the apprentice so as to insure his attendance at a duly approved technical school; to occasionally examine him as to the progress made in practical and theoretical knowledge; and finally to register him in order that information respecting his training and abilities may be readily accessible at any future time. It is, indeed, a most welcome sight to see employers and employed united together both for their own and the public good, while so far as the object to be attained is concerned it is one to be commended. The embryo plumber caught in the first blush of early youth is likely to prove like plastic "clay in the hands of the potter." The conditions, however, existing in the plumbing trade, in the South of England more particularly, are not such as to encourage a revival of the apprenticeship system. The scheme suggests a rather expressive Americanism that "there is no good in whopping a dead nigger," and it is to be feared that the process of natural decay in the existing system has passed beyond the reach of stimulants. Unless a course of instruction can be devised, conducted by an organised body upon lines distinctly different to those at present governing apprentices, the difficulties to be overcome are too great to warrant much hope of success. The future development of the joint board will be watched with interest.

HOUSING OF THE WORKING CLASSES.

A CONFERENCE is to be held by the Sanitary Institute on Monday and Tuesday next, July 30th and 31st, for the purpose of considering the problem of the housing of the working-class population in London and other large towns. In connexion with the Conference an exhibition of plans and models is being arranged in the Parkes Museum, and among the drawings that will be exhibited are those prepared for the London County Council, the Corporations of Liverpool, Manchester, Leeds, and Belfast, the Guinness Trust, the Peabody Trust, the Improved Industrial Dwellings Company, and other public bodies. On Monday the Conference will be presided over by Mr. Melvill Beachcroft, L.C.C., and the subject of discussion will be Unhealthy Areas and Displacement of Town Populations. On the second day Sir Sydney Waterlow will preside and the subject for discussion will be Improved Houses for Town Dwellers and Improved Means of Communication. About 400 delegates have been officially appointed by local authorities to attend the Conference, and in the afternoons visits will be paid to the new buildings being erected by the London County Council on the Millbank site, to the Boundary-street area at Bethnal Green, to the dwellings erected by the Improved Industrial Dwellings Company at Bethnal Green, and to the dwellings erected at Richmond, where the delegates will be received and entertained by the Mayor.

ON THE SIMULATION BY HYSTERIA OF OTHER DISEASES.

DR. ERNEST FUERST of Dantzig has published in the *Deutsche Medicinische Wochenschrift*, No. 14, April, 1900, two very interesting cases illustrative of the above, showing not only the degree and extent to which the clinical signs and symptoms of other diseases may be simulated by hysteria, but the practical importance of such cases as regards prognosis and treatment. The first of these was a unique case of œsophageal spasm following the attempt to pass a tube into the stomach. The patient was a woman, aged 36 years, with no hereditary taint, who had suffered for some weeks from gastric disturbances with pains and vomiting of such a character as to point to the presence of gall-stones. There was no icterus, and morphia failed to relieve the symptoms. The vomiting was on one occasion very troublesome and a tube was passed into the stomach. This being done the stomach contents were duly evacuated, but on attempting to withdraw the tube it was felt to be firmly grasped by the œsophagus, which had apparently passed into a condition of spasm. Finally chloroform was administered and when the œsophageal spasm had been sufficiently relaxed the tube was withdrawn. It was then found that the tip of the tube had got folded on itself, probably owing to the spasmodic obstruction being near the cardiac orifice of the stomach, and this combined with the spasm had rendered its withdrawal difficult. The woman was suspected to be suffering from hysteria and was subjected to hypnotic treatment and suggestion, after a brief course of which she was completely cured. The second case was of importance owing to the positive indications which it gave of phthisis. The case was that of a man, aged 29 years, of healthy family. He suffered from pains in the chest, the sputum was slightly blood-stained and there was a febrile elevation of temperature which was not at first suspected to be of hysterical origin. Careful examination of the sputa failed to show the presence of tubercle bacilli, though the

tuberculin test caused an elevation of temperature to 38·5° C. after five milligrammes were administered, and the patient complained of pain over the left side of the chest. The symptoms complained of were, however, peculiar and led to the suspicion of hysteria. Hence an injection of a few drops of distilled water—supposed by the patient to be tuberculin—was given with the result that the same reactions followed, and on another occasion the mere introduction of the hypodermic needle and its withdrawal without making any injection caused a repetition of the symptoms. The case was regarded, therefore, as one of hysteria, and the temperature was attributed to hysterical fever in that it also oscillated in a characteristic and irregular way. With appropriate care and treatment the patient recovered.

ALCOHOL AND THE TROOPS RETURNED FROM THE WAR.

DAY by day it is announced in the press that the victims of war, whether laid low by wounds or by disease, are returning from the front. Some of them are well enough to be sent to their own homes or to convalescent homes almost at once, and we wish to urge upon everyone coming into contact with these returned warriors the plain fact that knowing a man as a friend or the possession of admiration for a man who has done his duty is no reason for treating him to an overplus of alcoholic drinks. We do not say this because we have an objection to alcohol *per se*, but for any man, and more especially for one who has just recovered from a serious illness, to be filled with a selection of alcoholic drinks, and those, too, in many instances, not of the best quality, is conducive neither to his health nor to his chance of success in civil employment. A mixture, as is very possible, of beer, rum, and "whisky-and-soda" is calculated seriously to disturb the progress of convalescence, in addition to the fact that if a man on sick leave is treated to over-indulgence his resulting state of incapacity would not raise him in the eyes of a possible employer. The Army Temperance Association are issuing leaflets upon the same subject. We have treated the matter in a more practical way, but whether it be looked at from the practical or from the intellectual point of view we hope that the pleasure of the return home of those who have done well by their country will not be marred by their being subjected to either the pathological or the legal penalties of over-indulgence in alcoholic drinks.

TABES DORSALIS IN INFANTS.

TABES dorsalis is a rare disease in infants and the cases recorded in literature amount to six in all—viz., three cases published by Remak, one by Strümpell, one by Mendel, and one by Bloch. Dr. L. Dydynsky gives an interesting account of a seventh case[1]—viz., that of a boy, eight years of age, in whom the tabes had its onset at the age of five years and gave rise to bladder troubles. The patient has since then suffered from incontinence of urine and sometimes from retention of urine. He showed Romberg's symptom while standing, the pupils were of the characteristic Argyll-Robertson type, and Westphal's sign (loss of knee-jerk) was pronounced. There were muscular hypotonia and feebleness but no atrophy or manifest incoördination. He had lightning pains and paræsthesia in the lower limbs, as well as patches of hypoæsthesia and hypoalgesia. The personal history of the patient showed a remarkable freedom from any infectious disease and there was not any direct sign of hereditary syphilis. The family history was as follows. The child's father had had syphilis when a young man, aged 20 years, and was at the time of recording of the child's present illness suffering from incipient tabes with characteristic knee symptoms and pupillary conditions. The child's mother had had five miscarriages before the present child was born. Following him were three other children (infants) who so far appear to be well. Dr. Dydynsky insists on the fact that in all the cases observed of infantile tabes and juvenile tabes (Raymond, Homen) syphilis has been noted in the parents, especially the father. Hereditary syphilis is undoubtedly the cause of infantile tabes dorsalis just as it is also the cause of the characteristic cerebral degeneration which may bring about juvenile general paralysis (Thiry, Alzheimer). It is interesting to note that in nearly all the recorded cases of infantile tabes the symptoms began with bladder troubles and troubles of micturition, after which ocular symptoms followed. Troubles of sensibility of the skin followed next in order of time, whereas ataxia and loss of the power of balancing and walking supervened late or did not appear at all. Considering the syphilitic etiology it is a question whether the prevention of both tabes and general paralysis in juveniles might not be effected were appropriate anti-syphilitic treatment adopted in the case of every infant subject to hereditary syphilis. The question opens up one of the most important departments of preventive medicine.

[1] Abstract from the Russian by A. Raichline in Revue Neurologique, May 30th, 1900.

DENTISTS AND THE COMPANIES BILL.

MR. MORTON SMALE, Dean of the Dental Hospital of London, speaking at the conversazione and prize distribution in the Prince's Room, Piccadilly, on Wednesday night, July 18th, adverted to the effect of the Companies Bill now before Parliament on the profession of dentists. He said that almost every clause of the Dentists Act, 1878, began with the words "A person," from which it might be assumed that the intention was to restrict the practice of dentistry to individuals as apart from companies—in other words, that when a person went to consult Mr. Smith he should not be referred to Mr. Jones. This was a professional rule which had led the Royal College of Physicians of London to go so far as to say that even Fellows of the same College should not practise together. Within a few years of the passing of the Act, however, certain persons formed themselves into companies and proceeded to practise dentistry. While the question of remedying this grievance was under consideration the new Companies Bill was brought before the House of Commons and through the instrumentality of some members of the dental and medical professions two clauses were inserted with a view to prohibiting the practice of medicine, surgery, and dentistry by companies. At the moment when they thought they were secure Mr. Ritchie stated in the Grand Committee which was considering the Bill that he thought that it was necessary to drop the clauses because they were not germane to the subject matter of the Bill. Mr. Smale could not imagine that any Act which dealt with the formation of companies should not have reference to this matter, and he failed to see the potency of Mr. Ritchie's remarks. There was no more appropriate place in which to insert clauses for stopping this disreputable practice than this Bill. Everybody in the House of Commons was agreed that the practice was a disreputable one and it was nonsense to postpone the matter indefinitely. It was a monstrous injustice that dentists after going through a five years' curriculum should have to be met by companies carrying on their profession. We thoroughly agree with every word that Mr. Smale said and so does the whole of the medical and dental professions. But unfortunately the clauses in question were excluded on Tuesday night last

when the Bill was considered in the House of Commons as amended by the Standing Committee.

THE Liverpool School of Tropical Medicine has received a communication from the expedition which was despatched last month to America *en route* for Brazil to the effect that, at the suggestion of Surgeon-General Sternberg, medical chief of the United States Army, the expedition had joined for a short period the official Yellow Fever Expedition which the American Government has just despatched to Cuba.

MR. A. MARMADUKE SHEILD has been elected surgeon to St. George's Hospital in the room of Mr. J. Warrington Haward, who retires on completing 20 years' service on the full staff. Mr. H. S. Pendlebury, who has filled the post of Demonstrator of Anatomy and more recently of Surgical Registrar, has been elected assistant surgeon.

WE regret to announce the death of Mr. W. Storer Bennett, F.R.C.S. Eng., L.D.S., dental surgeon and lecturer on dental surgery to the Middlesex Hospital. Mr. Storer Bennett was lately President of the Odontological Society and stood very high in the esteem of the medical profession. He died at the comparatively early age of 43 years.

Pharmacology and Therapeutics.

DORMIOL.

IN an article published in the *Münchener Medicinische Wochenschrift* of April 3rd Dr. Peters of the Luisenhospital in Aix-la-Chapelle gives a very favourable account of a new hypnotic which he has employed in practice for nine months. This substance, which has been named "dormiol" by its discoverer Dr. Fuchs, is a compound of one molecule of chloral with one molecule of amyl hydrate and is an oily colourless fluid having a specific gravity of 1·24 and an odour like that of camphor. It is manufactured by Kalle and Co. of Biebrich, and is sold by them either in the pure state, or in 10 per cent. aqueous solution, or in gelatine capsules. The patients to whom Dr. Peters gave dormiol were almost without exception kept under observation for some time previously, and in order to counteract the influence of suggestion injections of distilled water were given to some of them before the dormiol. These patients were 45 in number, and their morbid conditions were classified under the following heads: nervous system, 20; lungs, 3; heart, 1; intestines, 1; kidneys, 5; liver, 2; peritoneum, 1; genital organs, 2; bones and muscles, 5; blood, 1; chronic poisoning, 2; convalescence after influenza and scarlet fever, 2. They all took dormiol without repugnance, and some said that it tasted like ammonia or ether. It was given either in the form of a 10 per cent. watery solution mixed with milk or in gelatin capsules containing half a gramme (seven and a half grains). No unpleasant after-effects were ever experienced. In seven of the 45 cases no particular effect was produced, but these patients were also found to be unaffected by trional in gramme doses (15 grains), and by amyl hydrate in doses of from four to six grammes. In 84 per cent. of the cases a more or less deep sleep was induced. As with other hypnotics, the effect was for the most part palliative, but in some instances habitual insomnia was permanently benefited. Dormiol was especially serviceable in insomnia due to functional neuroses. It was also tried in cases of organic disease of the brain and spinal cord and was found useful in all but one. A patient suffering from paralysis agitans in whom the smallest mental excitement brought on insomnia was soon sent to sleep by half-gramme doses of dormiol. Half-gramme doses were usually given to commence with, and on an average the hypnotic effect appeared in from half an hour to an hour. The quantity might be increased to one gramme, but it was seldom necessary to give as much as two grammes. In conclusion, Dr. Peters recommended dormiol on the grounds that it was easy to take, that it was harmless in doses of from half a gramme to two grammes, that it was cheaper than other hypnotics, and that it was at least as serviceable as paraldehyde, amyl hydrate, and trional.

IODALBACID.

Iodalbacid is a preparation of albumin containing 10 per cent. of iodine and is recommended as a therapeutical agent on the ground that in the animal organism it appears to be a much more stable compound of iodine than the alkaline iodides, acting less rapidly than the latter but more continuously, and never with the production of the phenomena of iodism. It is a yellow powder, having hardly any taste or smell, and is not readily soluble in water. It is made by L. W. Gans of Frankfort. The dose is from two to five grammes (from 30 to 75 grains) daily, sometimes for several months in succession, taken either in wafers, or baked in macaroons, or in half-gramme tablets. In the *Wiener Medicinische Wochenschrift* of April 7th Dr. Arthur Briess gives a summary of 25 cases of syphilis treated with it in the clinic of Professor Neumann of Vienna. In the greater number of these cases it acted well, and sometimes with comparative rapidity. In some instances, however, it failed, especially in recent syphilis, and other antisyphilitic remedies had to be resorted to. The patients who recovered under iodalbacid mostly suffered from late relapses, exanthemata, papules on the genitals and mouth, periostitis, and gummata. Two patients in whom iodide of potassium produced cardiac troubles, headache, and skin affections, had none of these symptoms when taking iodalbacid. Professor Neumann's patients had from eight to 12 pastilles of iodalbacid daily, with strict injunctions that they were to be taken only after food. Chemical analysis showed that iodine soon appeared in the urine and saliva.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia of the Fellows was held on July 11th, the President, Dr. W. S. CHURCH, being in the chair.

The PRESIDENT informed the Fellows that he had accepted the invitation made to him as President of the College by the Secretary of State for War to become a member of the commission appointed by the Government to inquire into the condition of the sick and wounded in South Africa. In accordance with the by-laws he nominated Dr. F. W. Pavy to act as President during his absence.

On the motion of the PRESIDENT it was decided to send a congratulatory address to the Royal College of Surgeons of England on the occasion of their approaching centenary celebration.

A communication was received from the Secretary of State for War, asking the advice of the College on a proposal for encouraging the investigation of the nature and cause of dysentery affecting armies in the field and its relationship (if any) to enteric fever.

After some discussion the PRESIDENT was requested to express to the Secretary of State the hearty appreciation of the College of the proposal submitted, and to suggest that in their opinion the end in view would best be attained by appointing a small commission of suitably qualified persons to conduct the inquiry.

A communication was read from the Secretary of the Royal College of Surgeons of England reporting certain proceedings of its Council.

Two Reports were received from the Laboratories Committee.

On the motion of the REGISTRAR By-laws 13 and 28, which were amended in consequence of the re-constitution of the University of London, were re-enacted a second time, and By-law 133 which was amended to make it conformable to the conjoint regulations, was re-enacted for the first time.

NOTIFICATION OF MEASLES AND WHOOPING-COUGH.—The Plymouth Town Council has given notice that the order for the notification of measles and whooping-cough will come into operation on Sept. 1st.

THE FIRST INTERNATIONAL CONGRESS ON MEDICAL ETHICS OR DEONTOLOGY, HELD AT PARIS, JULY, 1900.

(FROM OUR SPECIAL CORRESPONDENT.)

IN the large white hall of the cream-coloured Palace of Congresses on Monday, July 23rd, rather more than 200 medical men, coming from all parts of the world, met to inaugurate the first international congress of medical men who have gathered together solely for the purpose of discussing how to organise the profession so as to take an active part in the economic struggles of the day. This is not a scientific congress, unless we qualify political economy as a science, but a meeting of militant medical men who are resolved to maintain the highest ethical standard as the rule of their profession and to defend the economical interests of its members. A considerable number of the delegates who are expected were not present, nor was there any need for all to attend, as it was well known that the proceedings would be of a purely formal character. Nevertheless, it was an encouraging gathering. The few speeches delivered were certainly mild in character; it seemed as if the speakers felt they were treading on new ground and were anxious not to appear prematurely boastful. But there was a thoughtful, earnest tone which is probably quite as likely to produce good results. Dr. Théophile Roussel, senator and author of the admirable law for the protection of abandoned children, was honorary president and opened the proceedings by a few almost inaudible words of encouragement. Dr. Lereboullet, the President of the Congress, then delivered a more lengthy discourse in which he first expressed his thanks to all who in France and abroad had helped to render the Congress not only possible but successful and representative. He pointed out that the time was propitious, for the questions at issue had now reached the domain of practical politics. On all sides it was felt that the profession was overcrowded, that medical men worked more and earned less than formerly, and that their position was attacked from many sides. He denounced quacks, the sale of secret medicines, and unprofessional advertising, as contributing, as well as the great societies that organised contract work, to degrade the profession morally and to lower the incomes medical practitioners might legitimately hope to earn. All these evils could only be met by the organisation of strong medical unions for the purpose of defence and of educating the profession to a knowledge of its economical position. As a secondary task the medical unions might strive to establish some form of mutual insurance against accidents, sickness, and old age. In all these matters at every stage the principles of deontology must be brought to bear, namely, the duty of the medical man to the public, to his patients, and to his professional colleagues. Deontology sprang from the soul. It was difficult to define. It followed the principles of equity, it engendered a sense of refinement, it produced harmony, it obliterated strife, and though the most vague it was the most powerful force they possessed. The medical unions, by bringing the prosperous and the struggling together, helped to engender higher feelings, to efface selfishness, and to create a real professional brotherhood.

Honorary presidents selected from each nationality were then elected, and the general secretary of the Congress, Dr. Jules Glover, gave a short account of the origin and scope of the Congress. He expressed his regret that it would take up too much time to read all the letters of sympathy and approval the organisers of the Congress had received. This correspondence would show how warmly and enthusiastically the Congress had been approved by medical men of all nationalities. Under the Congress hall was the exhibition of social economy and now medical men were also beginning to study social economy as it affected their profession. Dr. Glover went on to show how the various phases of this problem had been intrusted to experienced technicians who had gathered together a great store of facts that bore on the points at issue. There was but little eloquence, but little oratory, in these papers which the Congress would be called upon to discuss, but they were essentially practical and full of information. This opinion will doubtless be endorsed by those who read the subjoined summary of some of these reports which I have been able to make from the proofs. After these few speeches the Congress adjourned to the restaurant of the Congress which faces the Congress hall, where light refreshments were served and the delegates indulged in friendly conversation.

MEDICAL MEN AND FRIENDLY SOCIETIES.

Very shortly after nine on Tuesday morning the real business of the Congress began. The delegates met in the large amphitheatre of the École de Médecine. Dr. LEREBOULLET was in the chair and the discussion was opened on Dr. CUYLITS's paper. This paper, on the Relations of Medical Men with Benefit Societies, which came first on the list of reports presented to the Congress, was written by Dr. Cuylits of Brussels, and it would be difficult to find in Europe anyone with greater practical experience of the subject. Dr. Cuylits is well known to the readers of THE LANCET as the energetic secretary of the Brussels Medical Union during their memorable strike against the Federation of the Benefit Societies of the Belgian capital. Dr. Cuylits commences by going back to the guilds of the Middle Ages which he describes as a rational attempt to organise labour, but the guilds had now been replaced by trades unions and professional unions. The same spirit of organisation, the necessity of association for mutual help and protection, likewise led to the formation of the vast "mutualities," benefit or friendly societies, to provide pensions and medical attendance in times of sickness, accident, or old age. As in all these cases medical care is necessary the medical officer is the foundation-stone on which such organisations rest. But these societies are philanthropic and not commercial undertakings. Therefore in most countries there are special laws in their favour and they sometimes received subscriptions and donations from benevolent persons. This movement is of the utmost importance because it is spreading so rapidly. Thus in Belgium there were 756 benefit or friendly societies in 1895 and in 1899 they had increased to 2928. In the same time the coöperative societies had augmented from 394 to 1297 and several of them had a medical service for their members. Dr. Cuylits estimates that out of the 6,670,000 persons that constitute the population of Belgium close upon 3,000,000 receive medical aid in some form or other and do not pay the usual medical fees. This state of affairs is not stationary; the evil is rapidly increasing. After alluding to similar conditions prevailing in other countries Dr. Cuylits insists that organisation can only be met by counter organisation. If the medical practitioner is to live in selfish isolation, without coming to a common understanding with his colleagues on matters of common interest, he must inevitably fall a prey to the solid organisations brought to bear against him. On the other hand, by organisation medical men may hope ultimately to abolish the contract system. The members of friendly societies, &c., should receive only financial aid when ill, and with the money thus obtained they would be free to call in and pay for the services of the practitioner whom they prefer. Dr. Cuylits proposes, however, that there should be a fixed minimum charge for each consultation given to members of such benefit societies as apply strictly a wage limit. This fee could vary according to the social standing of the members of the society; it would be notified to all practitioners and none would be allowed to accept less. Dr. Cuylits is uncompromising in his opposition to contract work. Let the subscriber make weekly payments not for medical aid but for money allowances when he is ill and with this money he will be able to secure and pay at a fixed rate per consultation any one of the practitioners who have come to terms with his society.

M. GAYRAL, after Dr. Cuylits had concluded amid warm applause, was the first to speak. He declared that he was in favour of reform, though he represented, not the medical profession, but the great friendly societies. He denounced the presence of wealthy members of such societies. They might remain as honorary members, but should not receive the medical aid intended only for the poor.

Mr. ADOLPHE SMITH (London) then suggested verbal modifications to the motions proposed, as the term *vraie* or "true" friendly societies would not be understood by those who had not followed the discussion. At the request of the secretary of the Congress he gave some details of the abuses prevailing in England, which were greeted with loud applause and not a little laughter. When he insisted that

cheap contract work tended to degrade the profession the Congress enthusiastically and unanimously approved.

Dr. VANDAM, President of the Brussels Medical Union, followed and insisted that the medical officers should have a voice in the management of the friendly societies. He denounced the "blacklegs" of the profession and demanded the creation of a representative body possessing sufficient authority to ostracise those medical men who undersold their brothers in the profession. Such an authority would be greater if it were international.

Dr. LASALLE (Bordeaux) explained how it was sought to establish a minimum fee of one franc per consultation and one and a half francs per visit. This effort had failed through the action of the "blacklegs."

Dr. CUYLITS said he had no fear that his meaning would be misunderstood, for Mr. Smith was not only an eloquent and humorous orator, but one of the ablest correspondents of the medical press and would not therefore fail to make his meaning clear.

After a lengthy and at times a somewhat confused discussion the motions which concluded Dr. Cuylits's report were finally adopted with some slight modification and are as follows:—

No. 1.—All genuine friendly societies, that is to say, societies composed exclusively of workers, are entitled to a minimum tariff which in all other circumstances would be incompatible with the dignity of our profession.

No. 2.—The friendly societies will only be allowed to profit by such tariffs if they undertake to accept and to retain as members only such persons as are in poor circumstances.

No. 3.—These tariffs may differ according to the resources of the friendly societies according to local circumstances.

No. 4.—These tariffs shall be established by mutual arrangement between the friendly societies and the medical societies. These tariffs shall be notified to all practitioners, thus leaving each practitioner free to accept or reject them.

No. 5.—The system of subscribing (contract work) cannot be authorised under any conditions whatsoever, and the members of the friendly societies are free to select the medical attendant they may prefer.

No. 6.—The administrative committees of friendly societies must comprise a medical man as one of the administrators.

The Congress having unanimously passed these resolutions adjourned for lunch.

INTERNATIONAL RECIPROCITY AMONG MEDICAL MEN.

At the afternoon sitting on Tuesday Dr. SCHWALBE of Berlin opened the discussion on the conditions of practice enjoyed by medical men in other than their own country. Some States, notably Denmark, were very hard on foreign practitioners. Great Britain was, comparatively speaking, very lenient, and so also were Bulgaria, Roumania, and Turkey.—Dr. STOEBER protested against the treatment of French doctors in Alsace and Lorraine, and wanted to see an agreement concluded with Germany similar to that which existed with other countries.—Dr. VANDAM alluded to a Bill before the Belgian Parliament based on the principle of reciprocity. The Belgians would grant the right to practise in Belgium to those foreign medical men who came from countries where Belgian medical men were likewise allowed to practise.

The discussion now drifted from the question of general practice to that of frontier practice. This is a question and a grievance that will not have occurred to the English mind as England has no immediate neighbours, but on the Franco-Belgian frontier it often happens that a Belgian practitioner living in Belgium is nearer to a French farm or hamlet than the nearest French practitioner living on French soil. Therefore, especially in emergencies, it is the Belgian medical man who is called to the French patient. Conventions allowing this so-called frontier practice have been agreed upon by the two countries. It is now said that the Belgian medical men carry out not a "frontier practice" but a "penetrating practice," travelling sometimes 15 miles beyond the frontier and passing the residences of one or more French medical men. The Congress, therefore, adopted the following resolution:—

The Congress resolves that the conventions relating to the practice of medicine on the frontiers be modified, and that the distance which medical men may penetrate beyond the frontiers be precisely defined.

HOSPITAL ABUSE.

The next paper, which was by Dr. PAUL THIÉRY, surgeon on the staff of the Paris hospitals, dealt at great length with the question of hospital abuse. The Medical Union of the Parisian practitioners have discussed this matter extensively and published many pamphlets and articles on the subject. The evil—namely, the use of hospitals by those who can afford to pay fees—is increasing so rapidly in most countries that M. Armand Lefèvre declared in the Municipal Council of Paris that in spite of all efforts to the contrary the time would come when bread and medical aid would be given gratuitously to all who applied, and that the time was not far off when the medical practitioner would be a paid functionary of the State. Dr. Thiéry discusses at length the class of persons who are entitled to frequent hospitals and maintains that workmen protected by legislation rendering their employers liable in case of accident have no right to admission in the hospitals. There is no need of charity in such cases, particularly as the employers are generally insured against such risks. Many cases of abuse are cited, notably that of a jockey who was earning £1000 a year and went to the Hôpital de la Pitié to be treated for a sprain; and a lady was able to pay for her journey from America so as to obtain advice at the same hospital. The cashier of a commercial house earning a salary of £800 went to the Hôtel Dieu, and to-day any number of visitors to the Paris Exhibition profit by the opportunity to obtain gratuitous advice at the Paris hospitals. A young lady came from Russia, was operated upon gratuitously at the Hôpital St. Louis, and then went for her convalescence on a journey to Italy. A celebrated singer wanted the hospital surgeons to come to her own house—she did not like to go to the hospital—and yet she strongly objected to pay any fee whatsoever. All classes and conditions of people seem to think that they have the right to be treated for nothing at the hospitals. Dr. Le Blond had proposed that no one should be admitted whose rent was equal to £40 or more per annum. There are about 50,000 births every year in Paris. Out of these 18,000 take place at the public expense, yet it is scarcely likely that one-third of the mothers in Paris are so poor that they cannot pay for a private medical man. If the well-to-do did not so constantly profit by the public charities the genuine poor would receive greater and more efficient help. Medical practitioners too often are themselves to blame, for they readily give letters of recommendation for treatment at the hospital to patients who should be independent of these charitable institutions. Nor is this grievance met by establishing paying wards and such institutions as the Hôpital Dubois, pompously called the Maison Municipale de Santé, which is practically a cheap medical hotel where wealthy patients only pay a part of what they cost. Dr. Thiéry has sent a circular asking questions to the hospitals of 21 important French towns. The answers received all go to show that no real effort is made to prevent abuse, and the institution of paying patients is very widespread, the charges made varying from 2*s.* to 16*s.* per day, yet the physicians and the surgeons receive no fees from these paying patients. At Havre, however, some attempt is made to ascertain what is the financial position of the patients and at Lyons a certificate of poverty is demanded before a consultation is given at the hospitals. Similar inquiries made in the leading capitals of Europe, and notably in London, show that hospital abuse prevails in all directions and in all countries, and the grievance comprises the paying as well as the other patients. The payment is simply a means of soothing the conscience of the patient; he nevertheless remains a recipient of public charity. For instance, the administration estimates the average cost of the maintenance of patients at the Hôtel Dieu of Paris at three francs 65 centimes per day. But the land on which this hospital stands is worth 75,665,000 francs which if divided by the 563 beds the hospital contains means 134,398 francs per bed. At 4 per cent. interest this is equal to 14 francs 75 centimes per bed per day. Adding the cost of maintenance each bed costs 18 francs 40 centimes per day, and this is not all, for there is the cost of the central administration, so that each patient may be said to cost about 20 francs or 16*s.* per day. Now if a well-to-do patient pays five francs a day he is still taking daily about 15 francs out of the public purse, money which the taxpayer pays so as to help the poor. In response to the efforts of Dr. Porson the Paris Municipal Council recently voted that well-to-do patients should not be admitted in the hospitals and that they might only be received in special buildings when they paid sufficient to defray the entire cost of their maintenance without in any way trespassing on the resources at the disposal of the poor. This resolution has not, however, been sanctioned by the Prefect. In conclusion Dr. Thiéry urges that the clerks or porters at the hospitals, instead of merely taking the names and addresses of patients, should make inquiries as to their means of subsistence. A special inspector attached to the poor relief authorities of each district should then make an

inquiry to verify these statements. The patient on his side should be made to sign an agreement by which he undertakes to pay for his treatment if it should be proved that he has misrepresented his financial position. Should such deception be practised a second time by the same person then there should be a possibility of obtaining a conviction entailing a penalty of a fine and even of imprisonment. Unless under well-defined and altogether exceptional circumstances there should be no more paying patients admitted into the public hospitals. It will be seen that this paper deals with very similar grievances to those described as prevalent in England.

Dr. VACHOT, after Dr. Thiéry had concluded, pleaded in favour of the genteel poor, who he thought were quite as much entitled to hospital treatment as the working classes.

Dr. NOIR (Paris) suggested that the outdoor patients should first be treated at the local dispensaries established by the poor relief administration or Assistance Publique. All such medical relief led to inquiries and charitable persons called at the houses of the people. Such visits would be very disagreeable to persons who were in good circumstances and would materially tend to prevent abuse. In this manner also only the more serious cases would be referred to the hospitals. He further thought that students should begin by this practice among the poor and go to the hospitals at a later stage of their studies.—Dr. VANDAM protested against inquiries made as to the financial position of patients and thought that there was not much hospital abuse in Belgium.—A number of Parisian doctors then followed, warmly debating details of hospital practice in Paris, and the foreign delegates became impatient at the purely local character which the debate was assuming. At last Mr. ADOLPHE SMITH strongly protested that this was an International Congress and that a great part of the conclusions of the report only applied to France. He then narrated some incidents of hospital abuse in England showing the total difference of the state of affairs on the English side of the Channel. This was further explained by a paper written by Colonel Montefiore, which gave many statistics and showed that one-third of the London population received medical aid from charitable and Poor-law institutions. At last the conclusions of Dr. Thiéry's paper were set aside as better suited to a French congress, and the Congress adopted a resolution stating that hospitals should be reserved exclusively for the poor, and that local medical unions should strive to enforce this principle in the manner best suited to their respective local circumstances.

The Congress now adjourned to the big hall of the Hôtel des Sociétés Savantes where "a wine" was offered by the Medical Union of Paris and the neighbourhood. The hall was very elegantly decorated with palm trees and the flags of all nations. The greatest cordiality prevailed and it was generally agreed that a very good day's work had been done.

THE ILLEGAL PRACTICE OF MEDICINE.

The Congress continued its sittings on Wednesday morning when Dr. DESCOURT, Professor of Forensic Medicine at the Paris Faculty of Medicine, read a paper on the Illegal Practice of Medicine. He points out that the economical position of medical practitioners is more and more compromised, not only by the increase in the number of practitioners, by the competition of the hospitals, by the sweating proclivities of medical aid associations, and by the sale of largely advertised patent drugs, but also because a large number of unqualified persons illegally practise medicine. In Paris alone he considers that from 15,000 to 20,000 consultations are given daily by others than qualified practitioners. If this continues medical men will in time be compelled to surrender their independence and become mere employés of the State or of large organisations, companies, &c., whose interest it will be to pay their medical officers as little as possible. The law restricting the illegal practice of medicine is not fully applied. The lay population does not take the matter in hand and medical men are too busy and too poor to risk doubtful and expensive legal proceedings. The remedy lies in the constitution of strong medical unions. Such organisations could undertake legal proceedings and in France have done so successfully on several occasions. These trials may cost each member of a medical union a pound or two in the course of a year but they will save him from illegal competition, and both the moral and material gain is far greater than the cost. Some discussion ensued.

GREAT SUCCESS OF MEDICAL ORGANISATION IN HUNGARY.

In regard to the formation of medical unions a most encouraging report was presented by Dr. ERNEST JENDRASSIK of Budapest. It appears that at first it was proposed to form a chamber of medical men on the model of the Chamber of Barristers which was created in 1874. But it was found that such an organisation would place medical practitioners too much under the control of the Minister of the Interior. By law every medical man would be compelled to join the Chamber; he would be protected by the law, but while many duties would be imposed nothing in the constitution of such chambers indicated that anything effective would be done to deal with the economic condition of medical practitioners. Further, the results acquired in Austria and Germany, where such chambers of medical men exist, was not calculated to encourage the Hungarian practitioners. Therefore they resolved to form a free medical union which was entitled the General Medical Association of Hungary. The rules were adopted at a medical congress held in 1897, and these were shown to the Minister of the Interior and approved by the Government. The object of the association is to unite all the medical practitioners into one great corporation so as to protect their moral, social, and material interests. The association is subdivided into local branches which must consist of at least 20 members, with president, secretary, and treasurer elected for three years. The branches enjoy considerable local autonomy, but must of course conform to the general rules. The central, or, as it is called, the Presidential, Council is the link between the branches. This general medical council consists of a president, two vice-presidents, a general secretary, two assistant secretaries, a treasurer, 10 members selected among the practitioners of Budapest, 20 from the provinces, and the presidents of all the branches. As there are actually 74 branches the presidential council now consists of 112 members and is thus a very representative and influential court of appeal. An annual congress of the entire association is held in September each year at Budapest. The weakest point of this organisation is that it cannot compel by law every medical practitioner to join, but though a chamber may force everyone to subscribe it cannot compel them to obey, and unity of action is more important than the multiplicity of subscriptions.

At first some doubts were expressed as to whether the movement would be successful, but when the first branches became sufficiently numerous for it to be possible to issue a monthly publication recording what had been done the great majority of the medical practitioners of Hungary joined. It is now calculated that no less than four-fifths of the medical men in practice have become members of this widespread organisation. This is a tremendous result, achieved in an incredibly short time, and it seems to indicate that a new principle is more readily adopted in a new country than in the older established nationalities. The General Medical Association of Hungary has already collected statistics setting forth the financial position of the practitioners; it has fixed a tariff of charges for medical examinations for insurance companies; it has drawn up a report on all the laws that affect the practice of medicine and their deficiencies and forwarded the same to the members of the Government. Now the association is engaged in striving to fix a minimum fee for medical consultations which shall also govern the payments made for contract work. Finally, a benefit fund has been created to help medical men who are in distress. Members alone are allowed to subscribe to this fund, but they are not compelled to do so. It is a form of mutual insurance. The fundamental purpose of the association is the defence of the economical interests of the medical practitioners and to abolish that form of competition based on "under-cutting"—namely, taking lower fees. Hence the absolute necessity of establishing a minimum fee and bringing the whole power of the association to bear so as to prevent any practitioner accepting less. The fact that four-fifths of the practitioners of Hungary are members of this association is an example that medical men in all countries should take to heart. It is one of the most encouraging statements that have been made to the Congress. No discussion followed.

The Congress then adjourned.

A DEFINITION OF MEDICAL DEONTOLOGY.

Dr. GRASSET, Professor at the Medical Clinic of the Montpellier University, has a very lengthy paper in which he strives to define and explain what is meant by the term "deontology." This is to be read to-morrow (Thursday), but I send its substance for the consideration of your readers. He protests that the word was not created, as Max Simon says, by Deschambre, but had been previously employed by Bentham in 1747, the British jurisconsult to

whom the National Convention decreed the honorary title of French citizen. Bentham's work was entitled "Deontology or the Science of Duty" and was translated into French by Laroche in 1834. The great Cruveilhier, when writing on the duty of the medical practitioner, said that duty is honour; it is the moral life of man and of society; where it is lax degeneration has set it; where it ceases to exist death soon follows. Deschambre said that for medical dignity to be respected the medical man must first be imbued with the sentiment of self-respect. Max Simon insisted that the preliminary step towards medical reform was to reform the medical man, but Dr. Grasset urges that before blaming medical men for not observing the principles of deontology they must first be certain that they are acquainted with those principles, and at the present time the young practitioner finds no book, code, written rule, or guide in such matters. Now deontology has nothing to do with civil or criminal law. Montesquieu said: "There are means to repress crimes; these are legal penalties; but to correct bad manners there only exist better examples." Jules Simon argued that they did their duty simply because it was their duty, and Max Simon that the abstract idea of duty was alone capable of maintaining the medical practitioner at the height of his mission. "Preserve the cult of honour. In its indefinite character it is superior to the written law, it cannot be reasoned with, it can only be felt, it is a religion." It may be said that deontology is one of the highest phases of the moral law and in no profession is a higher moral standard more necessary than in that of medicine. Therefore, from the very first the medical man will not aim at success in the worldly sense. He will first seek to honour his profession by honouring himself; placing himself beyond the possibility of reproach he will pay every deference to his colleagues and be guided by the sentiment of duty and honour, not by the desire of material gain. If the public are to respect medical men the latter must first respect each other, a fact too often obliterated by feelings of jealousy and the spirit of competition. To judge others leniently and to be severe to one's self and to avoid all backbiting is the surest way to win the public respect for the profession. The Medical Union of the Paris medical men has issued a special circular to its members on this subject. It urges them never to criticise the treatment ordered by a colleague. "Let us remember that any malevolent word discredits not only certain doctors but the entire profession."

Dr. Grasset then proceeds to quote a number of rules drawn up by medical societies of different countries against all sorts of cabals or intrigues having for object to attract clients or to advertise some special remedy. Every form of self-advertisement must be strictly prohibited, as also the giving of commissions to agents, interpreters, couriers, &c., so that they may bring clients to some special establishment where a physician is attached. Monfalcon speaks even of ecclesiastics who bring members of their congregations to certain doctors and are paid for doing so, and then there are touts, matrimonial agencies, but above all hotel servants, who all receive commissions for the patients they send. Dr. Brouardel has mentioned dispensing chemists who received as much as 50 per cent. of the fees paid by the patient they had sent to a particular practitioner. This paying of commissions, though greatly opposed at first, has become very prevalent in France, and though, of course, energetically condemned is thought preferable to advertising. Sometimes the grievance is in the contrary sense and it is the practitioner who receives commissions from the chemist whom he recommends to his patients. This sometimes leads to the prescribing of expensive drugs that are not really needed. Again, there are medical men who receive commissions from the proprietors of hydropathic establishments for sending their patients to these places, and practitioners often receive circulars offering such commissions. Then there are medical men who are shareholders of such establishments and have therefore a direct financial interest in sending their patients where they will help to increase the dividends. There is no law to prevent a medical practitioner purchasing shares of a company that exploits some medical mineral springs. But deontology teaches us that the practitioner should be above suspicion, and therefore it should not be possible to say that he had any financial interest whatsoever in the remedies or methods of treatment he prescribes. In a word, though the medical practitioner has the right to claim payment for his services his first object is not to earn money but to acquit himself with dignity and integrity as a member of the medical profession. His first interest is the interest of the profession; his first care is the honour of the profession; the making of money is altogether a secondary matter; if he thinks money is the first object then let him go into trade or finance.

The next important point in medical deontology is the conduct of medical men towards fellow medical men, and especially when treating the same patient or taking each other's duty. On these matters great differences of opinion prevail among medical men themselves. For instance, in a case of acute illness can a medical man consent to continue a treatment which has been commenced by one of his colleagues? Some reply in the negative and others that the patient should have the right to change his medical adviser if he thinks fit. Dr. Grasset argues that in cases of urgency a practitioner may visit his colleague's patient, but should hand back the case when there is no longer any urgency and not accept any fee. When it is the patient who wants to change his medical adviser the new attendant called in should be in a position to show that he has done nothing whatsoever to bring about such a change, and, above all, that he has not offered to accept lower fees. The patient should be made to give a formal notification to his former medical attendant and the new medical attendant should make it his business to see that his predecessor is paid before he himself accepts any fees. On this point the opinions of a great number of medical authors and of medical societies are quoted which it would take too long to reproduce here.

Then there is the question of nomadic practitioners who go to a town or village once in the month or once a week and of the army or naval surgeons. The former system is only approved for localities where there is no resident practitioner; but with regard to the ethical right of army surgeons to practise among the civil population opinions are very much divided. The expressed opinion of authors and of medical unions is also quoted in regard to the etiquette that should govern the choice of a consultant. So long as the personal and professional standing of the consultant is beyond question the medical attendant must submit to the choice made by the patient. At Bordeaux, however, the opinion prevails that the medical attendant may object if the consultant chosen is not possessed of the special experience the former may judge necessary, and it is suggested that in such a case there should be two consultants, one chosen by the patient and the other by his regular medical attendant. Again, the question is raised—and on this also opinions are divided—whether a medical practitioner should refuse to meet a consultant who is not working in harmony with the local medical union and also whether a consultation with a homœopath should be objected to. It would seem from what is said that there is less objection to act as a consultant when sent for by a homœopath than to send for a homœopath as a consultant. The necessity of punctuality in meeting the consultant, the manner of his reception, the importance of avoiding all criticism or fault-finding in presence of the patient, &c., are dealt with at great length. The opinions of a large number of medical unions are quoted which concur in recognising that in his own house the consulting-room of the consultant is neutral ground and there he may give advice to patients who call on him without inquiring whether they have a regular medical attendant. But at the same time the consultant should not break through this neutrality by persuading his patient to change his regular medical attendant. "Theft for theft, why steal away the confidence a patient has in his doctor?" Also, if the patient is wearing some apparatus the consultant should refuse to remove it unless it be in the presence of the practitioner by whom it was applied. Indeed, in all cases it is preferable that the patient should inform his regular medical attendant that he is going to visit a consultant. After dealing with some other points the paper then proceeds to consider how these ethical principles are to be enforced and at once suggests that there should be a course of lectures on deontology at all the medical schools. Then there should be some book published on the subject and it ought to be placed in the hands of medical students. The *Concours Médical* has offered a prize of £20 for the best pamphlet on the subject and the *Lyon Médical* opened a subscription for a similar purpose. But, after all, such pamphlets would only express the opinions of their authors. The code of ethics should be based on the opinions expressed or the resolutions voted by numerous medical societies or unions. But these associations have all got the defect of being too

local in their conceptions and sentiments; a more general authority is required. Therefcre, local societies should federate nationally, and, better still, internationally, and thus create a really representative body which could elect a committee capable of treating such a question in a broad spirit and in a manner applicable to all districts and to all nations.

Paris, July 25th.

THE WAR IN SOUTH AFRICA.

THE news from the seat of war is again unsatisfactory and disappointing. From a military point of view the progress towards any final settlement seems to be very slow, and until General De Wet and his forces have been disposed of or some fresh and decisive movement has taken place on the part of the British it is not likely that things will be otherwise. The history of De Wet's raids and movements and of his successful though chequered career since the capture of Pretoria is remarkable reading. He is a sort of Rob Roy and has shown uncommon skill and ability as a military leader and guerilla chief.

We gather from all the accounts which we have received from South Africa that the cold weather has had a beneficial influence in checking the progress of enteric fever. The reports from medical officers have assumed a much more assured and hopeful tone in regard to it. With the limited railway transport at Lord Roberts's command and its insufficient amount of rolling stock and worn-out and comparatively powerless locomotives, and the long distances that have to be traversed, the difficulties in the way of supplying the army can be readily imagined. It is therefore greatly to be regretted that at this stage of the war we should hear of the frequent interruption of the railway and lines of communication by the enemy's forces.

Now that the South African Commission has not only been definitely constituted but has begun its inquiry at Burlington-gardens under the presidency of Lord Justice Romer we trust that people will be content to set aside for the time being all acrimonious feeling, of which there seems to be a good deal in South Africa, and to patiently await the result. The measures which have been taken to elicit the truth and to guard the witnesses from all injury to themselves in giving their testimony should, we venture to think, satisfy the most fastidious. It is simply ridiculous to suppose that the members of the Commission are not well qualified by their high personal character, attainments, and business qualifications to conduct an inquiry of this kind in an unbiased and thorough spirit. The preliminary inquiry, so far as it has already gone in this country, will have the effect of educating them in the principles of army systems and organisation in matters of transport, supply, and hospital field service generally. It is satisfactory that Mr. Harrison is a member of the Commission, for his intimate acquaintance with railway traffic and organisation, where the matter of transport enters so largely into the question before the Commission, will be very valuable. We may here briefly advert to the letters referring to the subject which appeared in the *Times* of July 23rd. They were all worth reading, but that by Mr. Watson Cheyne struck us, as might have been expected, as especially so. He has had large personal experience in South Africa and took a deep interest in everything connected with the hospital systems in force and he describes what he saw and the arrangements and efforts that were being made and in which he took a prominent part in consultation with the various medical officers concerned. Mr. Watson Cheyne gave evidence before the Commission on Wednesday last.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

It is hard to think that we are in July. Really it seems much more than five months since we were getting ready to start in London. Though we are in mid-winter it is so warm in the sun that we are able to carry most of the patients out into the open air for some hours each day. They like it and there is no doubt that it does them good.

Christian De Wet is not broken yet, but surely it cannot be many days before our many divisions which are all round him bring about his downfall from his high pedestal as the one efficient discomforter left and so put an end to the war. There ought to be a big bag soon and there is an impression that Botha will surrender when De Wet is settled and that then the resistance to Lord Roberts will fizzle out quickly. We hear that Lord Kitchener has gone down to have a go at this most sporting of generals. There is, in fact, a widespread feeling manifest in this camp and among those who come into it that the war is all over, and the chief question on everybody's lips is how soon we shall get home. The words "impending dissolution" fairly define the feeling that pervades the hospital. The colonials who came on to our staff in various managerial capacities are all anxious to get away and to return to their permanent work. Our dental surgeon and one of our dressers (Hay) have already gone home. Blathwayt, as I told you, is in the isolation hospital and we have made him the medical officer in charge there. Poor FitzHugh is dead and two of our medical men (Greenfield and Elliot) are still in the wards recovering from enteric fever, so that the number at mess has been somewhat attenuated of late. Brooks, who came out as one of the dressers but who is a qualified medical man, has been promoted to fill the vacancy caused by FitzHugh's death.

I am thankful to say that the epidemic of enteric fever is rapidly diminishing both in the number of its victims and also in the virulence of the disease. This is what we have been hoping for ever since the cold weather set in. The effect upon the work in the various hospitals is immediate and very marked. The report from Bloemfontein is that already the hospitals there are half empty, and certainly the authorities show nothing like the anxiety they did, even two or three weeks ago, to fill up our vacant beds as soon as we notify them as empty. Indeed, we have not taken in a train-load since the sick and wounded from Mafeking arrived a fortnight ago, though small parties of Yeomanry still drop in with great regularity every day—almost, I might say, by every train. In spite of this we have been quite busy with surgery up to the middle of last week. The various hospitals which for some weeks past Surgeon-General Wilson has had ready packed in trucks to be shot up to the stations north of Bloemfontein have not all of them got through even yet. The difficulty is not one of deficient medical resources but of deficiency of transport; for, what with the repeated interruptions inflicted by De Wet upon the railway service, the worn-out condition and the small number of the engines, the delays at the deviations where a bridge has been blown up, and the scarcity of fuel and water, it requires the entire energy of the railway staff to keep the army fed.

My rubber, who came out with me, had to spend a week in hospital lately, and his services were very much missed. He pays from 30 to sometimes as many as 50 visits every day and has been so useful that we have sometimes kept cases in the hospital much longer than we should otherwise have done so that they might benefit from his attentions. Chilblains have been a great nuisance to the sisters recently. I never saw such bad ones as they have had out here, particularly the sisters in the enteric fever huts, for they have to be perpetually wetting and drying their hands.

It is rather late in the day to mention the great loss incurred because friends at home label the parcels they kindly send to South Africa with a full indication of the tempting nature of their contents; the best way is for only a general description to be put on the parcel—e.g., "gifts for the troops," rather than "tobacco," "cigarettes," or "sweets."

I should have spoken of this earlier if I had known how great the loss has been, but I told you before that people "commandeer" in this happy land, and also most people are making collections of any trophies they come across. Mafeking siege stamps are very scarce and are considered cheap at 30 guineas the set of 19, and the siege paper money sells readily at 20 guineas for notes the total face value of which is £2 6s. Talking of Mafeking, we have, as you know, a large number of men here who went through the siege, and it is rather amusing to hear their criticisms of the inflated accounts which reach their ears from outside of the doings of some of their fellow-captives during the siege. Every one of them is loud in praise of General Baden-Powell.

The metal badges of the hospital have arrived and were distributed on Saturday by Lady Chesham to the entire staff. Also the name-boards of the wards and beds have come and

are being stuck up as quickly as possible. Two names which I appropriated for two of my wards are the "Wills" and the "Article Club," because it was owing to some friends of mine that they were endowed—Sir Frederick Wills being personally responsible for the first, while his son, Arthur Wills, prompted the generous efforts of the club which equipped, and therefore named, the second. Mr. Wills was only just starting his good work when we left England, and I am delighted to see that he succeeded in carrying through his project of equipping the whole ward. During the past week there has arrived from the Royal Army Medical Corps Fund in London a welcome present of pipes, tobacco, and clothes for each of the non-commissioned officers and men of our staff. The gift gave them great pleasure, for it showed them that they were not forgotten, and, indeed, I do not think that Her Majesty's forces contain any harder or more devoted workers than the hospital orderlies. Their position is one of considerable danger. I know of one hospital which has lost no less than 30 orderlies from enteric fever out of less than 200, and their work in the words is exacting and continuous. For them there is no such thing as a halt, from the beginning of the war to the end, unless, indeed, they get sick themselves, and they deserve all the kindness and recognition which friends at home can secure for them.

I think I told you some time ago that my wife had kept some of the patients occupied by starting essay competitions. More lately she got one or two of them to try their hands at sketching and some others at wool-work. Both of these pursuits have "caught on" to such an extent that it takes up all of her spare time to keep the hardy warriors supplied with needles and wool and canvas and other necessaries, and it looks most quaint to see them sitting up in bed stitching away for all they are worth. Some of them rush through a pair of slippers in an incredibly short space of time. Others, again, devote their entire attention to the various games that have been sent out from home. Cards, perhaps, form the most popular of these diversions, and when we move the patients, on their reaching convalescence, from the huts to the bell tents and subsequently into the trains for Cape Town, they do not fail to provide themselves with means for whiling away the time, so that there is a perpetual demand for a fresh supply of these smaller articles of diversion to the serious wards.

Deelfontein, July 2nd.

(FROM OUR SPECIAL CORRESPONDENT LATELY AT THE BASE.)

The slack season having set in at Cape Town the usual "military hospital" baiting has recommenced, this time headed by no less a person than the Archbishop of Cape Town, ably seconded by the wife of the Military Secretary to the Governor and the majority of the members of the Good Hope Society, backed up by the *Cape Times*, which paper for some inscrutable reason seems to have delighted from the very commencement of the campaign in throwing dirt at the military medical arrangements. Perhaps some of its staff have been refused admission to the wards when wishing to pass away a leisure hour. They say—or rather I believe that Tennyson does—that half a lie is worse than a whole one, especially if it contains a modicum of truth, but that the *Cape Times* can give credence to the hearsay evidence on which it bases its leader of June 26th gives one the idea that it is only too willing to believe such manifest untruths as it publishes. What can be said for the "charity" exhibited by the head of the Church in South Africa who on the secondhand evidence of a "friend" accuses the medical officers of military hospitals of diverting clothing from the sick, and alleges that blankets provided by the society never reached the wounded, and who further states on the same evidence that only the strongest pressure would induce the "medical men" to supply the necessary comforts? Comment on such statements I leave to abler pens than mine, but I confess to a feeling of utter disgust that any person should be ready to accept on such flimsy evidence such disgraceful allegations against a body of officers who have been working their hardest to overcome difficulties of which a person in the archbishop's position can have no knowledge. I pass over the remarks of the Rev. J. J. McClure, as of course he followed in his superior officer's footsteps, and any remarks which he might make regarding the dieting of patients or their treatment by the medical authorities must be put down to ignorance of the matter in question, but still it shows the necessity of measures being taken by the proper authorities to keep meddling interlopers outside the precincts of military hospitals. The medical officers in charge of our hospitals are quite capable of doing their duty without interference from the outside by irresponsible persons, and if they do not there are means of supervising them without any assistance in the shape of "visiting ladies," whose presence, in the capacity for which they are delegated, is an insult to the medical authorities. It is a curious coincidence that this hysterical agitation should have taken place in Cape Town synchronously with the letters to the *Times* written by Mr. Burdett-Coutts, who was staying in Cape Town prior to embarking for England. To put an end once and for all to this constant interference by these (I do not doubt well-meaning) people I would suggest a committee of inquiry to investigate these alleged atrocities who should take the evidence of the men themselves, who, I must say, are remarkably silent regarding them.

I am happy to say, turning to a more genial subject, that enteric fever is diminishing in Bloemfontein and that the general health of the troops is undoubtedly improving, though, of course, every week sees a great number of invalids homeward bound. Still, on the whole there is a distinct improvement and the pressure on the hospitals is lessening.

Bloemfontein, July 1st.

THE ACTION OF THE SMALL-BORE BULLET AND SHELL FRAGMENTS AT THE SIEGE OF MAFEKING.

To the Editors of THE LANCET.

SIRS,—The Mauser bullets as generally used by the Boers at the siege of Mafeking are of small calibre, low trajectory, high velocity, light in weight, and covered with a nickel casing. They do not cause any great amount of bruising in and around the wound and they are not so liable to smash a bone as are bullets of large calibre and slower velocity. In most cases the bone is merely perforated or grooved, and the missile passes through the body or limb and rarely lodges. It appears that the small quantity of bone carried on by the Mauser bullet after passing through a bone is so pulverised by the high velocity of the projectile that the particles are lost in the tissues surrounding the exit from the bone, and do not in any way retard healing of the parts, as spicules of bone formerly did when a bullet of large calibre was used; both the wound of entry and the wound of exit are small. At a range of about 1200 yards and upwards the Mauser bullet appears to lose its great velocity, as the wound of exit somewhat enlarges. This is caused by the bullet having a tendency to become deflected out of a straight line by meeting with resistance when the range is great, but as a general rule it passes through the body and rarely lodges. The fatality following the wounds made by the Mauser bullet is very low, especially in relation to the limbs, even when joints are implicated. I observed one patient who was shot through both frontal lobes; he was again on duty in a few weeks. Wounds through the lungs proved fatal, also no cases recovered where either the large or small intestines were perforated. Flesh wounds healed very quickly and without suppuration. On one or two occasions the nickel casing surrounding the ordinary bullets used stripped in the wound without any apparent contact with bone; when this occurred the wounds healed slowly and suppurated considerably. The stripping was probably caused by some defect in the manufacture of the bullet or by the enemy having tampered with the nickel-coating before firing.

Shell wounds.—Shell wounds of all descriptions healed with great difficulty, and the suppuration in most cases was profuse. This is accounted for in consequence of the great amount of tearing and contusion which the tissues encounter, by the large surface exposed, by fragments of clothing being carried into the wound, by pieces of shell, and by the general dirty condition of the projectiles. The shock to the system is in all cases very great, and was often the cause of death, as hæmorrhage is usually slight in all cases of wounds caused by shell fragments. From personal observation and practice I found that shell wounds treated by copious antiseptic irrigation, free and continuous drainage by ordinary indiarubber tubes, and apposition of the torn tissues by deep and superficial sutures, gave the most satisfactory results.

I am, Sirs, yours faithfully,

F. A. HOLMDEN, M.B. Edin.,
Medical Officer, Her Majesty's Service, British Bechuanaland Protectorate.

June 15th, 1900.

CENTENARY OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE PROGRAMME OF THE FESTIVAL.

THE proceedings in connexion with the Centenary Festival of the Royal College of Surgeons of England began on Wednesday morning, July 25th. From 11 until 1 in the unrivalled museum of the College Professor C. STEWART gave demonstrations to the Fellows, Members, and guests of the College. During the same hours Dr. T. G. BRODIE, director of the laboratories of the Conjoint Board, gave lantern demonstrations at the Examination Hall, Victoria Embankment, in illustration of the work done under his supervision.

MEETING OF THE COUNCIL.

The August Council meeting of the College was held in the afternoon, the President, Sir WILLIAM MACCORMAC, Bart., K.C.V.O., being in the chair.

Dr. FREDERIC SHEPHARD DENNIS was introduced and after signing the by-laws and making the required declaration he was admitted a Fellow of the College.

The SECRETARY reported the death on July 19th of Mr. Storer Bennett, elected on July 12th a member of the Board of Examiners in Dental Surgery.

The Council passed a vote of condolence with his family.

The PRESIDENT stated that the vacancy in the Board so occasioned would be filled up at the quarterly Council meeting in October.

The PRESIDENT reported that the deputation appointed by the Council had attended at Marlborough House on July 24th and had conferred the Diploma of Honorary Fellow on H.R.H. the Prince of Wales.

The Council proceeded to elect to the Honorary Fellowship 35 surgeons whose names we have already given.

A letter was read from Sir Henry E. Roscoe, Vice-Chancellor of the University of London, requesting the Council to appoint two persons to represent the College on the Senate under Section 12 of the Statutes. The Council appointed Mr. H. G. Howse and Mr. A. Pearce Gould.

Professor PACHOUTINE, President of the Imperial Military Academy of Medicine of St. Petersburg, presented to the Council an address of congratulation on the centenary of the College. Addresses of congratulation were also received from Professor Sklifossovsky on behalf of the Imperial Clinical Institute of the Grand Duchess Helena Pavlovna, from the Royal College of Physicians of London, and from the Royal Institute of Public Health.

THE CONVERSAZIONE.

On the evening of Wednesday there was a well-attended conversazione at the College, when the English surgical and scientific world was thoroughly well represented, although the tropical heat no doubt accounted for some regrettable absences.

On the morning of Thursday Professor C. STEWART and Dr. T. G. BRODIE continued their work of demonstrating, and at 2.30 P.M.

THE CENTENARY MEETING

was held in the theatre lately used by the University of London at Burlington-gardens. Sir WILLIAM MACCORMAC then delivered the following address of welcome.

AN ADDRESS OF WELCOME BY SIR WILLIAM MACCORMAC, BART., K.C.V.O., &C. (PRESIDENT).

MY LORDS AND GENTLEMEN,—One hundred years have passed since the charter granted by King George III. incorporated the surgeons of England into a Royal College, whereby the art and science of surgery might be the better cultivated and the commonweal of the people of this kingdom benefited. We meet to-day in order to celebrate the centenary of our incorporation, and the occasion compels us to reflect how far the College has fulfilled its high mission and merited the public consideration and confidence it enjoys and, as we believe, deserves to enjoy through unselfish service to the State.

My first and most pleasant duty is to welcome our illustrious guests who have come from many and distant countries to do honour to our College. Amongst them are great surgeons from almost all the nations, men who not only hold the highest professional position in their respective countries, but whose public record has made their name familiar to us all, while many of them are dear personal friends. We have guests, too, our own countrymen, whom we delight to honour; dignitaries of the Church and of the Law and heads of our ancient seats of learning. Although I cannot enumerate all, I can and do extend to each and every one the most cordial welcome and would wish to express our grateful appreciation of their presence amongst us.

An occasion like this possesses historic interest. We contrast our present position with that of our predecessors, and rightly congratulate ourselves on our greater knowledge and opportunities, on the facilities we enjoy for investigating the mystery of disease and for its more effective treatment. The comparison enables us to realise, as only such a comparison can, the extent of our gains and our increased opportunities for doing good. It leads us at the same time to recognise as we ought how large a debt we owe to the workers who have preceded us for so many of those happy results which are now matters of daily accomplishment.

The progress of surgery has been greater during the present century, more especially in the latter portion of it, than in all the preceding centuries combined, and it is of especial interest to us to note that this period of rapid advancement exactly corresponds with the life-history of our College, whose centenary we are assembled to commemorate. If we look back—and it is well to look back sometimes—we find in the labours of the old masters of surgery much to enlighten, to widen, and to confirm our views. A knowledge of the history of our art and science tends to make us juster judges both of our own work and of that of others. When we search the history of the development of scientific truth we learn that no new fact or achievement ever stands by itself, no new discovery ever leaps forth in perfect panoply as did Minerva, from the brow of Jove. Absolute originality does not exist, and a new discovery is largely the product of what has gone before. "We may be confident that each forward step is not ordered by one individual alone, but is also the outcome in a large measure of the labours of others. The history of scientific effort tells us that the past is not something to look back upon with regret, something lost, never to be recalled, but rather as an abiding influence helping us to accomplish yet greater successes."[1] Again and again we may read in the words of some half-forgotten worthy the outlines of an idea which has shone forth in later days as an acknowledged truth.

We see numerous instances of this in the history of surgery. Some fellow worker in years long past has discovered a new fact or indicated the path leading to a fresh truth. It is forgotten, and a century later something nearly the same, or mayhap a little better, is discovered afresh. The psychological moment has arrived, and the discoverer reaps the reward not only of his own labours but of those of his predecessors as well. The countless trials and experiments which ended in the general use of ether and chloroform in surgery—that trebly blessed discovery of a sure relief from pain—were guided by the experience of previous trials, half successful, half failures. The patient labour of our distinguished Fellow, Lord Lister, now President of the Royal Society, has been rewarded by a success to which all the world does homage, and which will crown his head with imperishable laurels. Yet none will be readier than Lord Lister to acknowledge how much the antiseptic methods of wound treatment owe to the researches and discoveries of Pasteur.

If we examine the old books we may find again and again something very near to what is the accepted doctrine of the present time.[2] History, it is said, repeats itself, and so very certainly does surgery. The difficulty of discovering anything really new is as great in surgery as in other branches of knowledge. Hippocrates (460 B.C.), the father of medicine, classified injuries of the skull in much the same way as that adopted in our modern text-books. He spoke of contusions of the cranium without fracture or depression, of simple fractures, depressed fractures, indented fractures involving the outer table alone, and fractures at a distance from the seat of injury which we now style fractures by

[1] Presidential Address, British Association, Dover, 1899, by Sir Michael Foster, K.C.B.

[2] For many of the details which follow I am indebted to an interesting history of surgery by Dr. Billings, which is to be found in the "System of Surgery," by Dr. Dennis, F.R.C.S., of New York.

contre-coup, a classification which leaves but a small margin for improvement. Many of the surgical instruments found in Pompeii are precisely similar in principle, if not quite equal in workmanship, to those now in use, and Pompeii was destroyed 1800 years ago (A.D. 79). Heliodorus, who lived at the beginning of the second century A.D., in the time of the Emperor Trajan, was a surgeon of much originality and appears to have been familiar with some of our modern methods and discoveries. He knew, for instance, of the ligature of arteries, of the radical cure of hernia by extirpation of the sac, and of the excision of a rebellious stricture of the urethra. Oribasius, who flourished in the middle of the fourth century A.D., was the friend and physician of the Emperor Julian. He has preserved for us the work of Antyllus, whose treatment of aneurysm by ligature of the vessel above and below the sac, with subsequent incision and evacuation of its contents, has of late years been revived with success, and is still considered by many of our surgeons as the best method of treatment in certain cases. One might cite other examples of old methods consciously or unconsciously revived, but these may perhaps suffice. The modern specialist finds his prototype in very ancient times and what we are apt to regard as a recent development is in reality a survival. Herodotus tells us that in Egypt there were as many branches of the profession as there are parts of the human body.[3]

In Europe, until the rise of the Italian Universities, surgery was mainly in the hands of peripatetic charlatans who cut for stone and operated on hernia. They travelled from town to town, kept their methods secret, and handed them down as family property to their descendants. The Hippocratic oath restricted the performance of lithotomy to those who had specially devoted their whole energies to the cultivation of this operation, and may partly serve to explain this remarkable survival. Some of these "cutters" were skilful men, but all were of necessity very ignorant. A very famous "cutter," whose name we do not know, died in Genoa in 1510, and Senerega, the Genoese historian, tells us that his method was to introduce an iron rod along the urethra into the bladder until it touched the stone, which he then extracted through a perineal wound. It has been suggested that this Genoese taught his method to John of Cremona who is credited with the invention of the grooved staff. One of the most celebrated "cutters" was Pierre Franco who was born in Provence about 1500 A.D. He used a staff and cut on the gripe as well and employed instruments for the purpose of crushing large stones. He was a man of determination and resource for he relates a case of a boy in whom, having failed to remove a stone by way of the perineum, he successfully performed the supra-pubic operation. The stone was of the size of a hen's egg and the patient subsequently made a good recovery. Colot was appointed lithotomist to the Hôtel Dieu of Paris in 1556. He had learnt what is known as the "Marian operation" from an itinerant quack, and he practised the method with, it is said, much success. The office and its secret descended to his son and to his grandson. In the great metropolitan hospitals—in St. Bartholomew's and St. Thomas's, for instance—persons were at one time specially appointed for the purpose of cutting for stone. John Bamber, who lived during the reigns of William III., Queen Anne, George I., and George II., was the last of the special lithotomists at St. Bartholomew's. He resigned his office in 1730, and his duties were transferred to the surgeons of the hospital, who were specially paid a small stipend each year as lithotomists until 1868. Bamber's portrait, by Vereist, may be seen at Hatfield House, and Lord Salisbury inherits some portion of his property through an heiress of this line who married a Marquis of Salisbury. At St. Thomas's Hospital certain of the surgeons were specially appointed to cut for stone, but before the year 1730 there appears to have been a special "surgeon for the stone," and the first of these was James Molins, who held a similar office at St. Bartholomew's. There is, indeed, no end to the matters of interest in the history of our art.

The great French surgeon Guy de Chauliac, who was born about 1500 A.D., studied at the three most famous centres of learning of that time—Bologna for anatomy, Paris for its surgery, and Montpelier for medicine. He travelled much, but finally settled at Avignon, where he became physician in succession to Pope Clement VI., and afterwards to Pope Innocent and Pope Urban. It was in Avignon he wrote his "Great Surgery," and in a special chapter of this work he records opinions which have an application even in the circumstances of our own times. "Formerly," he says, "all medical writers were both physicians and surgeons—that is to say, well-educated men; but since then surgery has become a separate branch and fallen into the hands of mechanics." It is interesting to find from Guy that there were in his day exponents of that modern foolishness called "Christian Science." These Guy describes as "consisting of women and many fools." They refer the sick of all diseases to the saints, saying: "Le Seigneur me l'a donné, ainsi qu'il Lui a plu. Le Seigneur me l'ostera quand il Lui plaira, le nom du Seigneur soit bénit. Amen." As a striking instance of my thesis I may take the great French military surgeon Ambroise Paré. We know his title to fame in substituting the ligature of arteries for the use of the hot iron in the arrest of hæmorrhage. We know also the story of how he forbade the barbarous practice of pouring boiling oil into gunshot wounds, due to the then prevailing belief that these wounds were poisoned, a belief revived with almost every war, even the latest one in South Africa. Paré had been apprenticed to a provincial barber at the age of nine years. Soon afterwards he came to Paris, attended lectures at the Faculty of Medicine, and gained admission to the Hôtel Dieu. He lived there as a dresser for three years, "seeing and knowing a great variety of diseases constantly being brought there." He was only 19 when he accompanied the king, François I., into Provence to meet the army of Charles V. He was attached to the Courts of four kings of France and, although a Huguenot, was spared at the massacre of St. Bartholomew by the direct intervention of Charles IX. It is interesting to learn that Dionis, more than 100 years after Paré's time, was urging at the Hôtel Dieu the adoption of arterial ligature in place of the caustic even then in vogue. Dionis, too, although he advised the Marian operation for stone, considered that the risks of the suprapubic method had been over-estimated, an opinion revived and insisted on by Sir Henry Thompson in our own time. We all remember J. L. Petit (1674-1750) who invented the tourniquet known by his name in the early part of the last century, and Anel who tied the brachial artery for traumatic aneurysm at the bend of the elbow, upon which procedure a claim was based for priority over Hunter, though Hunter's operation is wholly distinct in the principle involved. Towards the end of the eighteenth century, Desault, who nearly lost his life in the Revolution, was the leading French surgeon. He was accused of poisoning the wounds of some of his revolutionary patients in the Hôtel Dieu, and to be accused was in those times almost the same thing as being condemned. Desault, whose fame has been eclipsed by the brilliance of his pupil Bichat, was the first surgeon to teach surgical anatomy after the modern manner, although the great French hospital where he practised was described at that time as "the oldest, largest, richest, and worst hospital in Europe." I need not refer to more recent and greatly honoured names—Dupuytren, Velpeau, Nélaton, and many others.

In Germany, even so recently as 100 years ago, surgery was at a low ebb. George Fischer[4] tells us that quacks of all kinds, "cutters" for stone and hernia, cataract operators, and bone-setters, flourished in the land. The public executioner, whose business it was to fracture bones and dislocate joints on the rack, was supposed thereby to have acquired a knowledge of disorders of these parts and was consulted freely about them—so much so that Frederick the Great in 1744 published a decree limiting the powers of these men, and while permitting them to treat fractures, wounds, and ulcers forbade them to practise medicine. Hildanus (1560-1634), who lived in Germany at the end of the sixteenth century and beginning of the seventeenth century, has been called the father of German surgery. He was a voluminous writer, a bold operator, and his "Opera Omnia" was a work of reference for many years. Heister (1683-1758), a surgeon of much note in the eighteenth century, wrote a "General

[3] "The medical profession," he says, "is distributed among them [the Egyptians] in this wise: each physician is for a single disease, and not for more. The whole land swarms with physicians: some are appointed for the eye, some for the head, some for the teeth, others for the region of the belly, others again for unseen (internal) diseases."—Herodotus, ii., 84.

[4] Chirurgie vor 100 Jahren, Historische Studien.

Surgery," which enjoyed much repute and was translated into English. Bilguer (1720–1796), a surgeon-general in the German army, was noted for opposing the indiscriminate amputation of limbs then in vogue for gunshot fracture of the extremities which his predecessor Schmucker had warmly advocated and practised to an inordinate extent. Towards the end of the eighteenth century Von Siebold (1736–1807), a famous surgeon who enjoyed great repute as a clinical teacher and operator, taught anatomy at Würzburg, and about the same time Richter (1742–1812) was professor of surgery at Göttingen. Richter had travelled much, was familiar with the work done in England and France, and was the best writer and teacher of his day. He was the first to place surgery in Germany on a truly scientific basis. Of those German surgeons whose names still fill our ears with their fame and whose loss we have recently deplored—Stromeyer, Langenbeck, Billroth, Volkmann, Thiersch, Nussbaum, and others—I could only repeat what all of you know as well as or better than I.

The first English surgeon of whom we possess any definite knowledge and whose writings are still in existence is John of Arderne; he was born in 1307. He must have been an accurate and close observer, to judge by the graphic description which he furnishes of cancer of the rectum. He says: "It breeds within the fundament with great hardness but with little pain. After a time it is ulcerat, oftentimes all the circumference, and the excrement goeth out continuallie." He gives a true and telling description of how the condition is to be diagnosed, and of the progress and termination of the disease.

It is noteworthy how many of the older surgeons who attained eminence spent part of their career in the army or Navy. William Clowes (1540–1604), who was surgeon to St. Bartholomew's, had been a surgeon in the navy, and wrote "A proved Practice for all Young Chirurgeons concerning Burnings with Gunpowder and Wounds made with Gunshot," and he refers to Ambroise Paré in terms of admiration. The greatest English surgeon of the seventeenth century was Richard Wiseman (1622–1676). He served in the Dutch Navy till 1644, and then entered the army of Charles I. Afterwards he spent three or four years in the Spanish navy and on the restoration joined the forces of Charles II., by whom he was appointed one of his surgeons. He published many treatises, which exercised a considerable influence on English surgery but were little known abroad. William Cheselden (1688–1752) was a surgeon of great renown in England in the early part of the eighteenth century. He was a surgeon and lecturer at St. Thomas's Hospital. In 1723 he published a treatise on the high operation for stone, but he soon abandoned this for the lateral method which he so much perfected and improved that the operation remains at the present time much as he had left it. Percivall Pott (1714–1788) was the famous English surgeon of the middle portion of the last century. He was surgeon to St. Bartholomew's Hospital, and made many and most important contributions to surgery, especially on hernia and on injuries to the head. His name remains attached to many surgical disorders. Of John Hunter (1728–1793) no detailed mention is required here. His memory and his methods continue a living influence amongst us. He made our surgery a science, and has given to us in our museum an imperishable memorial of his industry. In it are illustrated those marvellous powers of observation which had never before been equalled, and will never in all probability be surpassed. So long as surgery continues Hunter's influence must be felt. It is witnessed in the creation of so many distinguished disciples imbued with his principles and able to expound his doctrines. He embodies and represents the glory of our science, our College, and our country.

The historical *résumé* I have attempted would not be complete without some account of the connexion existing between the Surgeons and the City of London which appears to have continued quite without interruption since the middle of the fourteenth century until the foundation of the Surgeons' Company in 1745.[5] There are many entries in the City records of the admission by the Lord Mayor of Surgeons and Master Surgeons to practice in the City of London, and the licence thus granted exacted a promise "that they should well and truly serve the people in their cures and report to the Lord Mayor and Aldermen any Surgeon neglecting his patients." In 1416 the Craft of Barbers practising Surgery petitioned the Lord Mayor and Aldermen "to provide a sure remedy against unskilful persons who indiscreetly pretend to be wiser than the Masters of Surgery, and who expose the sick to the greatest danger of death or maim by their presumption." The City took immediate and, as we learn, successful action on this petition. The City recognised the distinction between Barbers and Surgeons, for they appointed "Masters of surgery" to control those practising surgery only, and other masters were annually selected to supervise those practising barbery. Early in the fifteenth century the surgeons appear as a distinct body, and in 1423 a College of Physicians and Surgeons, which had been founded chiefly through the influence of John Morstede, a surgeon who accompanied Henry V. to Agincourt, was formally sanctioned by the Lord Mayor, and powers granted to it to examine and control persons practising medicine and surgery in the City of London.

The Livery Company of Barber-Surgeons was founded in 1540 and its Hall in Monkwell-street is still standing, as it escaped destruction in the Great Fire of London. The famous picture by Hans Holbein of Henry VIII. delivering the charter of the company to the assembled Barber-Surgeons is still there, where until recently one might see the old theatre, where lessons in anatomy were read upon the bodies of executed malefactors. Thomas Vicary (149(?)–1561), sergeant-surgeon to the King, the first Master of this Company, was a wise and honest gentleman. He held a unique position at St. Bartholomew's, and there is in Holbein's picture at the Barber-Surgeons' Hall a characteristic portrait of him. Vicary was succeeded by Thomas Gale (1507–1587), who had served with the army of Henry VIII. in France in 1544 and under Philip II. of Spain in 1577. In his "Institutions of Chirurgeons" there is an account of wounds made by gunshot. He opposes the view that they are poisoned, and gives cases to prove that bullets may be left for long in the body without danger. The Barber-Surgeons appear to have borne their due share in the city pageants. At one pageant given at the Restoration the Lord Mayor and Aldermen appointed that the Company should provide "twelve of the most grave and comlyest personages; appareled with velvet coats, sleeves of the same, and chaynes of gold, to attend the Lord Mayor on horseback." Mr. Edward Arris, an alderman and barber surgeon, had a great desire to increase the knowledge of chirurgery, and to this intent bequeathed to the Company a sum to found lectures, in 1645, on anatomy, on condition that a "humane" body should once in every year be publicly dissected. The Gale Lecture was founded by John Gale a little later, in 1655, and Havers, well known for his description of the canals in bone, since called Haversian, was appointed the first reader. The Arris and Gale Lectures are still annually delivered in this College, for when the Surgeons finally separated from the Barbers in 1745 they carried nothing with them but the Arris and Gale bequests. The hall, library, and plate remained the property of the Barbers, and the new Company of Surgeons had to make a fresh start in the world.

The Act of Parliament separating the Surgeons from the Barbers became law in 1745, and a corporation was established consisting of a "Master, Governors, and Commonalty of the Art and Science of Surgery in London." John Ranby, one of the prime movers in effecting the change, became the first Master. He was serjeant-surgeon to George II., and accompanied that monarch to the battle of Dettingen in 1743. The other active mover was Cheselden, surgeon to Queen Charlotte's, to Chelsea, and to St. Thomas's hospitals. The first meeting of the new Company was held in the Stationers' Hall on July 1st, 1745. Mr. Ranby, as Master, occupied the chair, and Mr. Cheselden and Mr. Sandford were his wardens. Ten examiners were appointed to conduct the examinations of those seeking the diploma of the newly constituted company, and this number is continued in the present Court of Examiners. Part of their duty was to examine surgeons for His Majesty's army and navy, and the examination of surgeons for those services, which had been instituted in the reign of Henry VIII., was continued for a long time by the Court of Examiners until other arrangements were made at a comparatively recent date. It was for this examination, I may note in passing, that Oliver Goldsmith presented himself in order to qualify as a naval surgeon's mate on Dec. 21st, 1758. He was unsuccessful and it was well, perhaps, since he could scarcely have written "The Vicar of

[5] South's Memorials of the Craft of Surgery.

Wakefield" in the cockpit of a man-of-war. In "Roderick Random" we possess a graphic and probably fairly correct description of one of these examinations, derived, doubtless, from Smollett's personal experience, as he obtained the Company's diploma for the post of surgeon in His Majesty's navy.

The Surgeons established themselves in the Old Bailey and there they built a theatre. In 1753 Percivall Pott and John Hunter were chosen as the first Masters in Anatomy, and no more brilliant choice could have been made. It is recorded that immediately after this election the Court proceeded to discuss how they should dispose of the bodies of the three persons who were to be executed a few days afterwards for "murther" and then sent to the College theatre to be dissected. Amongst the bodies brought in this way was that of Lord Ferrers, executed in 1760 for killing his steward. It was not, however, dissected, but was buried in Old St. Pancras churchyard at the intercession of Lady Huntingdon. On July 7th, 1796, Henry Cline the elder was elected a member of the Court, but, as it subsequently turned out, the meeting at which this occurred was irregular and its proceedings were illegal, a properly constituted quorum not being present. Although only a technical illegality had taken place this incident led to the final extinction of the Company of Surgeons, for a Bill shortly afterwards introduced into Parliament to legalise the proceedings was thrown out and the Company was thereupon dissolved. The Bill had passed the House of Commons but was rejected in the House of Lords, mainly through the influence of Lord Thurlow, who was bitterly opposed to Mr. Gunning, a very distinguished surgeon, and at the time Master. "There is no more science in surgery," Lord Thurlow is reported to have said, "than there is in butchery." "Then," replied Gunning, "I heartily pray your lordship may break your leg and have only a butcher to set it, and my lord will then find out the difference between butchery and surgery." In 1786 the Surgeons migrated from the Old Bailey to Lincoln's Inn-fields. In that year a new Bill they sought for was rejected in the House of Lords on the ground that the College premises were too far removed from the place of execution and that it would be indecent and improper to carry the bodies of deceased criminals so long a distance through the streets of London. Finally, the Court in 1797 decided to apply to the Crown, and not to Parliament, for a new charter, and although opposition was again offered it proved unsuccessful, and on March 22nd, 1800, the Royal College of Surgeons in London was established by charter of King George III. This charter gave the College its former rights on condition of resigning its municipal privileges. The titles of "Master" and "Governors" were retained for a time, but a supplementary charter from King George IV. in 1821 replaced these by those of "President" and "Vice-Presidents." In 1843 another charter, granted by Her Majesty Queen Victoria, changed the title to that of "Royal College of Surgeons of England, with a President, two Vice-Presidents, Council, Fellows, and Members, as they exist at the present time. Thus it was that the Royal College of Surgeons of England was created.

It would seem in consonance with the tenor of this address, and calculated to identify this College as far as may be with the progress of surgery in England during the last 100 years, if I append a brief record of the life and work of those men who have during that period presided over its destinies, men who for the greater part have occupied a foremost position in their day, many of whom have achieved the highest honours and have each in turn devoted time and labour, often in a conspicuous degree, to further the interests of this College and thereby the advancement of the entire profession.

During the century of its existence this College has witnessed discoveries which have profoundly changed the character of surgical practice and the scope of surgical aspirations. An immense development has been effected in the operative surgery of every region of the body, and the victories of the surgeon over disease and death are without end. John Hunter and many of the older surgeons regarded operations as somewhat of an opprobrium to surgery and as a confession of failure. How far otherwise it is now! Intra-cranial, intra thoracic, and intra-abdominal operations are successfully carried out, many of them by proceedings which had never previously been imagined even by the boldest amongst us. A great impetus has been given to conservative methods in surgery, and the preservation of life and limb is now attainable in cases innumerable, and of the most different description, where conservation was previously regarded as impossible. How largely, also, have physicians and surgeons alike developed and cultivated that highest form of conservation, the conservation of the race in the happiness and vigour which are associated with physical health. Plastic methods have been perfected in an extraordinary degree. I would only mention as a striking although common example, the union of the ends of an accidentally divided nerve and the re-establishment of its function. Although the number and variety of operations have multiplied a hundredfold, the skill and fertility of resource exhibited in their performance have equally increased and the measure of success which has been realised, whilst it rewards and gratifies the surgeon, will appear, even to the educated layman, as little short of miraculous. In the early part of the century the surgeon knew of but a limited number of operations and for the most part those only were performed which appeared to be inevitable. He knew by sad experience how generally fatal important operations and cases of severe injury were when treated in hospital wards. His patients were more than decimated by infective diseases—pyæmia, septicæmia, erysipelas, tetanus, and by suppuration, hectic, and gangrene. He recognised, and could to some extent control, these scourges, but of any effective manner of dealing with them he knew nothing. Now we possess an intimate knowledge of the essential causes of many of these diseases, and if we cannot always cure them we can do much to prevent them. Some things have hitherto baffled our efforts. The cause and the cure of cancer are as yet unknown. We possess some crude ideas about the exciting causes of the disease and attempt with indifferent success to cure it by timely extirpation. Let us hope that the new century will still be young when some surer means of dealing with this terrible and increasing malady is discovered. A notable feature of our time is the development of the museums which are now attached to most of our public institutions. Those which more immediately concern ourselves illustrate everything within the range of biological science, and foremost amongst them all is our own great collection.

Much more might one say, and much certainly there is to say, but I will only repeat that our welcome to you all is sincere and heartfelt, and most especially so to our foreign colleagues. Our science knows no narrow national boundary. It is the common property of us all. We desire to sympathise with our fellow-workers abroad and to appreciate their work, as we trust and believe that they appreciate ours. In this address I have ventured to urge that we are much beholden to those who have gone before. In but a few years all who are now present will also belong to the past. Let us hope that, as we have not altogether forgotten those who preceded us, we, too, may be remembered a little by those who are to follow.

On great occasions like the present one the older seats of learning and other public institutions had power to grant honorary distinctions. Formerly we possessed no such faculty, but by the act of Her Gracious Majesty we, too, have recently obtained permission to grant a certain number of Honorary Fellowships of this College. The Fellowship is the greatest distinction it is in our power to bestow, and we regard it as the highest purely surgical qualification obtainable in this country. It is, therefore, a great privilege and pleasure for me to present, in behalf of this College, this high honour to those distinguished men who are about to receive it. I am sure also all present will be gratified to learn that His Royal Highness the Prince of Wales has graciously consented to become the first of our Honorary Fellows. His Royal Highness has always shown his interest in the College, and has evinced a special care for the success of its centenary. It is quite fitting, therefore, that His Royal Highness, who is the patron of so many learned and scientific societies, should add the lustre of his name to the Royal College of Surgeons of England.

(To be continued.)

BRISTOL LUNATIC ASYLUM.—The new wing of the Bristol Lunatic Asylum is now completed. It consists of four wards, which will provide accommodation for 150 female patients, and also rooms for the nursing staff. A small hospital for infectious diseases, fitted with six beds, three for each sex, had also been added. The institution will now afford accommodation for about 1000 patients. The estimated cost of the new buildings is £15,000.

ADMISSION OF THE PRINCE OF WALES TO THE HONORARY FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A DEPUTATION consisting of Sir William Mac Cormac, Bart., K.C.V.O., the President of the College; Mr. John Langton, F.R.C.S. Eng., Mr. Henry Morris, F.R.C.S. Eng., Vice-presidents; Mr. Thomas Bryant, F.R.C.S. Eng., past President and Senior Member of Council; Mr. Edward Trimmer, M.A., the Secretary; and Mr. Sibert Cowell, B.A., the assistant secretary, attended by appointment on Tuesday, July 24th, at Marlborough House for the purpose of presenting to the Prince of Wales the diploma of the Honorary Fellowship of the College to which His Royal Highness was elected on June 14th, 1900.

Sir WILLIAM MAC CORMAC, after introducing the members of the deputation, addressed His Royal Highness as follows:—

YOUR ROYAL HIGHNESS,—It is my great pleasure and privilege to-day, as President of the Royal College of Surgeons of England, to confer upon your Royal Highness the title and distinction of Honorary Fellow of our College. When this question was first mooted, nearly three years ago, we discovered that we did not possess the power to confer any honorary degree. Since then a new Charter has been procured and Your Royal Highness having graciously acceded to our wishes that you should become associated with our Corporation, I now in the name and by the authority of the Royal College of Surgeons of England, admit you an Honorary Fellow of the College.

And now, Sir, that you have become a Fellow of our College, permit me to tender to you our most respectful congratulations. You have on many occasions shown your interest and sympathy with our work, and what has happened to-day is not likely to diminish that interest. We are sure that the intimate association of your illustrious name with our College is an event in its history of the greatest importance, and cannot fail to be an encouragement in the future to all those who are connected with it.

Sir William MacCormac then handed to the Prince a Diploma on vellum engraved with the College arms, impressed with the College seal, and inscribed in the following terms:—

"Know all Men by these Presents that We, the Royal College of Surgeons of England, do hereby admit His Royal Highness Albert Edward, Prince of Wales, Duke of Cornwall, K.G., &c., &c., &c., &c., an Honorary Fellow of the College.

"As Witness our Common Seal this fourteenth day of June, 1900.

"WILLIAM MAC CORMAC, President.
"HENRY G. HOWSE, "JOHN TWEEDY } Vice-Presidents.
"Enrolled by EDWARD TRIMMER, Secretary."

The Prince having accepted the Diploma expressed in courteous terms the pleasure it gave him to become an Honorary Fellow of the Royal College of Surgeons, the centenary of which was about to be celebrated. His Royal Highness, as the first Honorary Fellow of the College, having signed his name on the "Roll of Honorary Fellows," afterwards took leave of the President and officers, and the deputation withdrew.

FACTORIES AND WORKSHOPS IN 1899.

I.

THE exhaustive annual report of the Chief Inspector of Factories and Workshops for the year 1899 has just been issued by the Home Office and contains, as usual, much that will repay perusal by those interested in the health of the community and the means taken to safeguard it. Dr. Arthur Whitelegge, the chief inspector, in his interesting summary of the year's work of his department, tells us that 1899 was a busy year with many changes. Trade generally was active, involving the registration and inspection of more premises and an increase in the number of accidents to be investigated, heavier lists of casualties being always expected in times of industrial activity. With regard to these we find from a table appended that the accidents reported to certifying surgeons under the Factory and Workshop Act amounted in 1897 to 15,985, in 1898 to 19,227, and in 1899 to 22,771, these totals including fatal and non-fatal accidents occurring to both male and female workers; while the 22,771 accidents of 1899 include 871 fatal accidents, 858 to males and 13 to females, and the 21,900 non-fatal accidents for the same year comprise 18,758 to males and 3142 to females. These figures give some idea of the relative amount of danger from accidents which is run by the two sexes in our trades and manufactures. We note with regret that a decrease in accidents to children observed in 1897-98 was not continued, there being, on the contrary, some increase in 1898-99. Dr. Whitelegge further points out that while the minor accidents reportable only to the inspectors increased 25·2 per cent., from 38,335 to 47,989, the number reported also to certifying surgeons advanced 18·4 per cent., from 19,227 to 22,771, and the fatal accidents 19·8 per cent., from 727 to 871. On the whole, therefore, he observes, the increase was less marked in the more severe forms of injury, but only under the head of "Loss of sight" was there actual decrease, and in that group the numbers are small, reference to the tables showing that loss of sight was recorded in 53 cases in 1898 and in 47 cases in 1899. With regard to the compulsory notification of certain forms of industrial poisoning under section 29 of the Factory and Workshop Act of 1895 the tables and details given show that cases of plumbism were on the whole fewer, which was mainly owing to the decrease in the number of cases reported as occurring in, and in connexion with, potteries. Under some of the sub-heads under which occur other trades in which lead in various forms is a source of danger diminution is also observable. Such sub-heads are "Glass-making," "File-cutting," and "Smelting." There was increase, however, in lead poisoning in some industries, especially in the manufacture of white lead and paints and colours, and in the miscellaneous group of minor lead industries. For the third year in succession there was no reported case of industrial arsenical poisoning. In the case of phosphorus necrosis also it is satisfactory to learn that fewer instances were reported, but anthrax seems to have increased and to have become unusually prevalent. Anthrax arises in dealing with horsehair, hides, and skins, and the degree of danger appears to vary markedly with the various sources from which these are imported, the worst country in respect of anthrax being conspicuously China. Mercurial poisoning occurs in the report for the first time, the Home Secretary having availed himself last year of the power given by Section 29 to place diseases traceable to mercurial poisoning in a factory or workshop among those of which notice must be given to his department.

The provisions of this Section of the Act of 1895 should be borne in mind by all medical men wherever practising. Those in large manufacturing centres are presumably familiar with them, but the medical inspector in his report in the Blue Book before us states that many elsewhere are not, such diseases as scarlet fever and their duties with regard to the notification of them being matters of everyday practice, while cases of lead poisoning are comparatively rare. The result of this is that the statistics with regard to lead poisoning are in some respects not to be relied upon as accurate or exhaustive. We may mention that the 29th Section of the Factory and Workshop Act of 1895 provides that every medical practitioner attending or called in to visit a patient whom he believes to be suffering from lead, phosphorus, or arsenical poisoning or anthrax contracted in any factory or workshop, shall (unless the notice required by the Section has previously been sent) send to the Chief Inspector of Factories at the Home Office a notice stating the name and full postal address of the patient and the disease from which in the opinion of the medical practitioner the patient is suffering. The medical man duly giving this notice is entitled to a fee of 2*s.* 6*d.* to be paid by the Home Office; by neglecting to do so he is liable to a fine of 40*s.* Care must therefore be exercised not to omit reporting a case proper to be reported, but it must be borne in mind that the illness must have been contracted in a factory or

workshop. The case, therefore, of a man who had contracted lead poisoning in coach-painting, or in burning off or removing old paint (one of the sources of danger mentioned in the report), in a factory or workshop should be notified, but that of a man poisoned in pursuing in the ordinary way the trade of a house-painter or a plumber should not. These do not come within the terms of the Factory Acts, except in so far as they may have contracted lead poisoning while performing such processes as grinding lead pigment in factories and workshops, and some friction has arisen through the necessary refusal to grant fees not authorised by the Act when lead poisoning has been reported and investigation has shown that it did not arise in a factory or workshop. The present practice at the Home Office is stated to be to assume that the practitioner can say that the patient is employed in a factory or workshop in which risk of lead poisoning may reasonably be anticipated and that he will not notify cases in which he cannot affirm this.

The extent to which lead poisoning is to be anticipated among house painters and plumbers is shown by the fact that under the conditions of limited notification mentioned 100 cases have been notified, while in addition information has been received from the district registrars of 13 cases in which lead poisoning was directly or indirectly the cause of death.

Before leaving the subject of the reports from which these useful statistics are compiled we observe that 63 certifying surgeons appointed under the Factory and Workshop Act of 1891 failed to make the report required of them under Section 19 of that Act, and that of 37 of these the appointment was cancelled owing to no satisfactory explanation of the omission being forthcoming. It is stated that the returns ultimately missing would not materially affect the figures given in the tables, so no doubt these cases arose where the certifying surgeons were seldom, if ever, called upon to perform their duties, but at the same time it is to be regretted that such returns as those before us should not be as complete and as accurate as possible. With regard to so much of the summary of the Chief Inspector of Factories and the reports of his subordinates as refer to dangerous processes and manufactures there is one matter which appears to us to be highly satisfactory. The stringent regulations which have been framed from time to time in order to minimise the danger of the workers in particular trades have evidently in many cases had the effect of abolishing the danger entirely. The regulations are possibly irksome, while the infringement of them may be attended with penalties, and either ingenuity is exercised which before lay dormant in order that the dangerous work may be done by machinery instead of by the hand of the workers, or else the process in which the employment of a poisonous substance was formerly regarded as necessary is found to be equally possible with the help of an agent that is innocuous. Match-making affords an instance of each of these changes, for we are informed in a single paragraph that in some match factories machinery is taking the place of hand labour in dangerous processes, while in one the firm has announced its intention to discard yellow phosphorus as it has succeeded in making "strike-anywhere" matches without it. Match-making, however, does not stand alone in its increasing safety; the use of lead for glazing earthenware and china lingers, the glazing being, as a rule, applied under conditions which protect the workers as far as they can be protected while lead is used, but the disuse of lead and the substitution of other glazes equally effective which do not contain it appear to be considerably on the increase and, indeed, form a hopeful feature in the report. Again, under the heading of "Industrial mercurial poisoning" we note a paragraph which informs us that the silvering of mirrors by means of an amalgam of mercury and tin (water-gilding), which was in former years the chief industrial source of mercurial poisoning, has been superseded in this country by the nitrate of silver and ammonia process. It will be seen from these instances that legislative interference with manufacturing processes with a view to protecting the health of the workers does not necessarily imply the undoing of the trade or manufacture interfered with merely because the interference is at first sight arbitrary and irksome. On the contrary, it stimulates the invention and adoption of better and safer methods, which better and safer methods must of necessity attract workmen of a better class who were deterred before by the danger of the employment.

THE LIGHT TREATMENT AT THE LONDON HOSPITAL.

MORE than three years have now elapsed since Finsen of Copenhagen introduced to the profession his method of treating lupus by means of light, and the favourable evidence obtained at his clinic is amply sufficient to justify a more extended employment of this valuable agent in the treatment of this troublesome disease. Although Professor Finsen has used his method for three years, yet it is only a little more than six weeks since any public institution in this country has been in a position to employ this therapeutic aid. The London Hospital is the pioneer in this matter, and this is due partly to the gift to the hospital by the Princess of Wales of some of the apparatus needed for its working and partly to the praiseworthy energy of the authorities of the London Hospital who have done all that can be required for the efficient working of the method. The "light cure" is carried on under the superintendence of Dr. Stephen Mackenzie and more immediately under the direction of Dr. J. H. Sequeira who attends for several hours daily for that purpose. A fair-sized ward has been set apart for the treatment and it includes dressing-rooms for the patients. The apparatus consists of an arc light surrounded by a shade so as to prevent the eyes of those present being dazzled. From this light there radiate four or more telescopes, each telescope conveying the light to one patient. The telescope contains lenses composed of quartz which has less obstructive effect on the active rays than any other refractive medium. The space between two of the constituent lenses of the telescope is filled with distilled water to moderate the temperature and an enclosing water-jacket serves still more to abstract the heat. The lenses are so arranged as to render convergent the divergent rays proceeding from the arc light, and they are brought to a focus by another lens which is held in position by a nurse. This lens is composed of two plates, which may be of quartz or even of glass, and the space between them is filled with water and may be connected with a supply so that there is a continuous replacing of the water which may have become heated by water which is cold. This cooling lens is held by the nurse and pressed by her fairly firmly on to the affected part. The object of this pressure is to render anæmic the part to be treated, as it has been found by experience that the therapeutic effect is much greater if the tissues are bloodless than if the circulation in them is proceeding normally. The active rays seem to be those which are usually called actinic, and are ultra-violet in the spectrum; they are therefore the most refractive rays, and they are accurately focussed on the part, the pressure being so adjusted that a red halo is seen surrounding a colourless centre of a little less than a shilling in size. The lens pressing on the skin may be held in position by rubber bands, but it is thus liable to shift and the employment of an intelligent nurse gives much more satisfactory results. It is, however, necessary that the nurse's eyes should be protected by coloured spectacles, as the light reflected from the lens pressed on the skin is intensely brilliant. Whenever it is necessary to readjust the position of the patient a red cloth cap is placed over the lower end of the telescope. The patient lies on a raised table or is seated in an adjustable chair the position of which can be varied so that the rays of light shall fall perpendicularly on to the skin. Each application or *séance* lasts about an hour and as each patient is treated only once a day and the department is open from 9 A.M. to 12.30 P.M. three sets of patients are under treatment every day, an interval of a few minutes being allowed between two sittings. The nurses after a little practice do not find it at all tedious to keep the compressing lens in position, exerting pressure at the same time, even though it lasts three hours each day. Great care is taken against sepsis; in order to prevent any such accident a separate pressure lens is kept for each patient and also separate parts of any other portion of the apparatus which comes in contact with him. These are kept in a series of lockers inscribed with the patients' names. Care is taken to protect the eyes and the unaffected parts of the patients' skin from the effects of the light rays. The light is provided by an arc lamp taking 60 to 80 ampères of current. This is obtained in the following

way: the public electric main is employed to work a converter which increases the ampèrage of the current from 10 to 60 or 80, while reducing its voltage from 140 to 60. The present converter is quite capable of supplying two such arc lamps as that employed at present, so that the capacity of the department could be doubled if necessary.

The same treatment can be carried out by the employment of the direct rays of the sun, and a small portion of the grounds has been shut off by a high paling from which can be hung curtains so as to exclude the gaze of the curious. The parallel rays of the sun are focussed on to the part by a large hollow lens containing an ammoniacal solution of copper which absorbs a large proportion of the heat rays. A separate lens has to be employed for each patient and a pressure lens, like that used with the electric light, is held against the affected part. There is no essential difference in the results obtained by the two methods.

The effect on the patient is in no way painful; the application itself causes no discomfort, and in so far as it is felt at all it is said by the patients to give a sensation of gentle warmth. But a few hours after the first application there is a certain amount of "reaction"; the part swells, becomes reddened, and is tender, but even then there is no real pain. This reaction varies in degree in different cases and is always seen in lupus vulgaris, but does not occur in cases of lupus erythematosus, so that it may be of some diagnostic value. As a rule it may be said that the greater the reaction there is the better the result. The beneficial effect of the treatment is often manifested within a few days, and one or two cases have occurred in which recovery ensued after only a few applications. Generally about 15 to 20 or 25 applications have to be employed before a satisfactory result is obtained. At one time an area not larger than the size of a shilling can be treated, so that if the diseased patches are extensive a prolonged course of treatment is required. The results, however, are eminently satisfactory: the skin becomes smooth, soft, and pliable, and what scar there is attracts little notice. The cases that are the most suitable are those with small recent patches of disease, but extensive chronic cases are improved, though not so rapidly. Lupus vulgaris seems to be the only disease in which the results are marked; in lupus erythematosus there is a little beneficial action, and one case of this disease is now under treatment at the London Hospital. It is early yet to speak of the permanence of the result, but Professor Finsen finds that recurrence occurs in only a small proportion of the cases, and in those a little further treatment removes the recurrent disease. When each patient is first admitted to this treatment at the London Hospital a photograph is taken and an elaborate system of notes has been devised. At the end of the treatment a second photograph is taken, and we hope in a few months' time to show the results when sufficient interval has occurred to render it probable that recovery is permanent. It is intended in a short time to provide an afternoon *séance* for paying patients if a sufficient number present themselves. Whatever may be the ultimate verdict of dermatologists on the Finsen treatment no one can deny the striking beneficial effects in lupus of this variety of phototherapy.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE following were among the principal amounts received at the Mansion House in aid of this Fund up to July 20th, when the total reached nearly £48,000:—

	£	s.	d.
Per the Chief Rabbi (including Great Synagogue, Aldgate, £254; New West-end, £134; Bayswater, £78; Central, £74; Hampstead, £69; St. John's-wood, £34; South-east London, £34; Dalston, £24; East London, £22; Maiden-lane, £20; New Dalston, £20	924	0	0
St. Mary Abbot's, Kensington, Parish Church...	314	0	0
St. Paul's, Vicarage-gate	126	0	0
Christ Church, Victoria-road	97	0	0
Church of the Annunciation, Marylebone	286	0	0
West London Synagogue	205	0	0
Christ Church, North Brixton	82	0	0
Corporation of the City of London	105	0	0
St. Thomas's, Telford-park	22	0	0
Holy Trinity, St. Marylebone	65	0	0
St. John the Baptist, Leytonstone...	20	0	0
St. Alban the Martyr, Holborn	40	0	0
St. Philip's, Sydenham	28	0	0
Box outside Mansion House...	11	0	0

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6486 births and 3662 deaths were registered during the week ending July 21st. The annual rate of mortality in these towns, which had been 14·5 and 15·8 per 1000 in the two preceding weeks, further rose last week to 16·4. In London the death-rate was 16·1 per 1000, while it averaged 16·7 in the 32 provincial towns. The lowest death-rates in these towns were 10·0 in Huddersfield, 10·7 in Cardiff, 11·6 in Burnley, and 11·7 in Bristol; the highest rates were 21·0 in Manchester, 22·2 in Salford, 23·0 in Sunderland, and 23·6 in Liverpool. The 3662 deaths in these towns included 555 which were referred to the principal zymotic diseases, against 344 and 427 in the two preceding weeks; of these 214 resulted from diarrhœa, 118 from measles, 91 from whooping-cough, 69 from diphtheria, 37 from "fever" (principally enteric), and 26 from scarlet fever. No fatal case of any of these diseases occurred last week in Plymouth; in the other towns they caused the lowest death-rates in Burnley, Halifax, Bradford, and Gateshead, and the highest rates in Derby, Salford, Leeds, and Sheffield. The greatest mortality from measles occurred in Derby, Oldham, Huddersfield, and Sunderland; from scarlet fever in Blackburn; from whooping-cough in Liverpool, Bolton, and Blackburn; and from diarrhœa in West Ham, Birkenhead, Liverpool, Salford, Leeds, and Sheffield. The mortality from "fever" showed no marked excess in any of the 33 towns. The 69 deaths from diphtheria included 21 in London, 10 in Sheffield, six in Leicester, and five in Leeds. No fatal case of small-pox was registered last week either in London or in any of the 32 provincial towns. The number of small-pox patients in the Metropolitan Asylums Hospitals, which had been 17 at the end of each of the two preceding weeks, had declined to 14 on Saturday last, July 21st; one new case was admitted during the week, against four in each of the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1877, against numbers increasing from 1754 to 1861 on the six preceding Saturdays; 222 new cases were admitted during the week, against 210, 229, and 208 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 140 and 160 in the two preceding weeks, further rose last week to 169, but were slightly below the corrected average. The causes of 39, or 1·1 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bolton, Oldham, and 10 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Salford, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·9, 17·7, and 17·2 per 1000 in the three preceding weeks, rose again to 19·0 during the week ending July 21st, and exceeded by 2·6 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·5 in Perth and 14·3 in Dundee to 19·7 in Greenock and 22·2 in Glasgow. The 588 deaths in these towns included 38 which were referred to diarrhœa, 22 to whooping-cough, 18 to measles, 11 to "fever," six to diphtheria, five to scarlet fever, and two to small-pox. In all 102 deaths resulted from these principal zymotic diseases, against 85 and 73 in the two preceding weeks. These 102 deaths were equal to an annual rate of 3·3 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had been 32 and 23 in the two preceding weeks, rose again last week to 38, of which 23 were registered in Glasgow, four in Edinburgh, and four in Dundee. The deaths from whooping-cough, which had been 22 and 21 in the two preceding weeks, rose again to 22 last week, and included 16 in Glasgow, two in Aberdeen, and two in Paisley. The fatal cases of measles, which had been 20 and 17 in the two preceding weeks, rose again last week to 18, of which 10 occurred in Glasgow and six in Edinburgh. The deaths referred to different forms of "fever,"

which had declined from four to none in the three preceding weeks, rose again to 11 last week and included 10 in Glasgow. The fatal cases of diphtheria, which had been two and four in the two preceding weeks, further rose last week to six, of which three were registered in Glasgow and three in Edinburgh. The deaths from scarlet fever, which had been four and seven in the two preceding weeks, declined again to five last week, and included two in Glasgow and two in Edinburgh. The two fatal cases of small-pox were both registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 97 to 71 in the three preceding weeks, rose again last week to 80, and were 22 in excess of the number in the corresponding period of last year. The causes of 29, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·8 and 18·2 per 1000 in the two preceding weeks, further rose to 23·4 during the week ending July 21st. During the past four weeks the death-rates in the city has averaged 19·9 per 1000, the rates during the same period being 14·6 in London and 17·0 in Edinburgh. The 157 deaths belonging to Dublin registered during the week under notice were 35 in excess of the number in the preceding week, and included 13 which were referred to the principal zymotic diseases, against three, six, and eight in the three preceding weeks; of these, five resulted from whooping-cough, four from diarrhœa, two from "fever," one from scarlet fever, one from diphtheria, and not one from either small-pox or measles. These 13 deaths were equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 2·6 in London and 2·9 in Edinburgh. The fatal cases of whooping-cough, which had been two, three, and four in the three preceding weeks, further rose last week to five. The deaths referred to diarrhœa, which had been two and one in the two preceding weeks, rose again to four last week. The fatal cases of "fever," which had been one and three in the two preceding weeks, declined last week to two. The 157 deaths in Dublin last week included 26 of infants under one year of age and 34 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons considerably exceeded the number recorded in the preceding week. Seven inquest cases and three deaths from violence were registered; and 52, or one-third, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon Samuel W. Vasey to the *Centurion*. Staff Surgeon James McC. Martin, D.S.O., to the *Barfleur*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant A. D. Jameson has proceeded to Woolwich for temporary duty.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the East Lancashire Regiment: Surgeon-Lieutenant A. Little resigns his commission. 2nd Volunteer Battalion the Essex Regiment: Surgeon-Captain S. A. Mugford resigns his commission.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Edmund Eustace Dyer, 7th Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Glasgow Companies: Surgeon-Captain G. T. Beatson to be Surgeon-Major and to command under paragraph 55A Volunteer Regulations.

THE SOUTH AFRICAN COMMISSION.

The Commissioners have lost no time in commencing their labours. The preliminary meeting was held at the commencement of the past week at Burlington House, when the President, Lord Justice Romer, stated that although the Commission was directed to inquire into and report upon the arrangements for the care and treatment of the sick and wounded during the South African campaign they had no compulsory or special powers conferred upon them; but they hoped and believed that practically they would not be hampered in their work by not having such powers. They proposed first of all to take the necessary departmental evidence and then to obtain from unofficial witnesses in England as much information as possible bearing on the subject of the inquiry. The Commissioners hoped to leave for South Africa on Saturday, August 4th, and they would therefore in all probability not be able to complete the evidence in England before they left. He further stated that should the Commissioners find that their anticipations were not realised and that they were substantially hindered from ascertaining the facts by the absence of compulsory powers they would not hesitate so to report to the Prime Minister and to ask his assistance in procuring the necessary powers.

It is hardly necessary to remind our readers that the Commission is now composed of the following gentlemen: Lord Justice Romer (President); Dr. W. S. Church (President of the Royal College of Physicians of London), Professor D. J. Cunningham (Trinity College, Dublin), Mr. Frederick Harrison (General Manager of the London and North-Western Railway), Sir David Richmond (ex-Lord Provost of Glasgow), and Major Tennant (secretary).

The following have been examined as witnesses:—Surgeon-General J. Jameson, C.B. (Director-General A.M.S.), Lieutenant-Colonel Johnston (Assistant-Director A.M.S.), Major W. G. Macpherson, R.A.M.C. (Deputy-Assistant Director A.M.S.), Lieutenant-Colonel J. S. Cowans (Deputy-Assistant Quartermaster-General), General Sir Henry Brackenbury (Director-General Ordnance Department), Colonel Steevens (Principal Ordnance Officer), Sir Ralph Knox (Under-Secretary of State for War), Colonel Stirling Ryerson (Canadian A.M.S.), Rev. W. H. Orford, Sir Howard Vincent, M.P., and Mr. Watson Cheyne, F.R.C.S. We hope to report the proceedings at some length next week.

THE RELIEF OF KUMASI.

A telegram has been received by the Colonial Office from Colonel Willcocks dated "Bekwai, July 20th," in which he says: "I left Kumasi 17th July, leaving behind 150 native soldiers under Captain Eden, Lieutenant Mayne, Medical Officer Thompson, (and) Sergeant Desborough, R.A., all West African Frontier Force, and ample supplies of ammunition and of food for seven weeks, long before which I will have reinforced detachment with a force sufficient to free itself from the surrounding villages, &c. I brought away from Kumasi old garrison, most of them in hammocks, and also a great many refugees, women and children. Before departure from Kumasi had buried heaps of rotting corpses which must have been lying near fort for weeks past. I had also cut short bush and the grass which was growing up quite close to (the) walls of the fort. The work was sickening in the extreme, but at the same time all ranks helped bravely. ..... I cannot end without bringing to notice the soldierly qualities of officers and men under trials I have personally never previously known in my long experience of jungle warfare, their cheerfulness under every form of discomfort, their valour against the unseen and unknown numbers, on half rations, native soldiers without any blankets, yet always cheery. They are deserving of high praise." Amongst the names thus brought to notice is that of Dr. McDowell, Principal Medical Officer.

DEATHS IN THE SERVICES.

Surgeon-Major Arthur Croker, late A.M.D., in his 69th year.

Brigade-Surgeon Thomas William Wright, A.M.S. retired, aged 68 years, at Blackheath, on July 20th. He served in the Ashanti war in 1873–74 and retired from the service in 1882.

Lieutenant-Colonel Charles James Hislop Warden, late I.M.S. (Bengal), on July 18th, at his residence, Highbury-grove, N., aged 49 years. He entered the Indian Medical Service in 1874.

Fleet Surgeon Thomas Martyn Sibbald on July 13th, at Taku, aged 48 years. He joined the naval service as surgeon in 1876, and was surgeon of the *Shah* when, in May, 1877, she engaged the Peruvian rebel turret-ship *Huascar* off the town of Ylo. He served in the two night torpedo expeditions, and was mentioned in despatches. During the Zulu war he landed with the *Shah's* naval brigade, accompanying the Ekowe relief column, and was present at the battle of Gingihlovo in April, 1879 (Zulu medal with clasp). He became staff-surgeon in 1888, and fleet-surgeon in 1896.

THE SICK AND WOUNDED AT TIEN-TSIN.

We have as yet no sort of well-grounded assurance that our worst fears regarding the Legations at Pekin are unfounded. It is quite clear that the upheaval in China is a national one and of a very formidable character. The fighting at Tien-tsin has been serious and the losses on the part of the allies are considerable. We know but little regarding the medical arrangements. The navy has mainly supplied the medical officers. General Gaselee, as soon as he reaches China with his force from India, is to telegraph as to the suitability of Wei-Hai-Wei (our possession) for the location of a base hospital. His force is accompanied by medical officers and field hospitals from India and by a hospital ship as well as by transports capable of being used as hospital ships. Moreover, the American hospital ship *Maine* has been placed at the disposal of Her Majesty's Government. Most important of all—as a munificent expression of loyalty and good feeling—the Maharajah Sindhia of Gwalior has made the offer of a fully-equipped hospital ship for China, upon which he is willing to spend 20 lakhs of rupees. This princely offer is made on behalf of himself, his mother, and his wife, to testify their loyalty to Her Majesty the Queen-Empress.

TRANSVAAL WAR NOTES.

The following officers of the Royal Army Medical Corps have been discharged from hospital to duty:—Major C. G. Woods, Lieutenant J. W. H. Houghton, Lieutenant R. D. Jephson, Major J. G. Black, and Major A. P. Hart; also Civil Surgeon F. G. Ralston.

Major Greig, R.A.M.C., and Major Anderson, R.A.M.C., are returning home invalided in the *Avondale Castle*.

The Mayor of Devonport has inspected the military hospital, Stoke, and visited the sick and wounded soldiers, who number about 45, all the others having recovered sufficiently to leave for their homes. The mayor, who was received by Surgeon-General G. J. H. Evatt, P.M.O., Lieutenant-Colonel J. R. Rahilly, and Major C. J. Addison, R.A.M.C., distributed presents to the men. About 250 more invalids have arrived by the *Cavour* and will be accommodated in the hospital.

The steamship *Britannic* arrived at Southampton on July 22nd from South Africa. She carried 505 invalids, who were admitted to the wards of the Royal Victoria Hospital, Netley.

Telegraphic news has been received of the sudden death of Captain J. S. Stevenson, I.M.S., who was lately appointed deputy sanitary commissioner. We hope to publish an obituary notice of this very promising young officer.

Correspondence.

"Audi alteram partem."

"THE FOURTH DISEASE."

To the Editors of THE LANCET.

SIRS,—I accept without hesitation the differentiation of rubella into two distinct diseases which Dr. Clement Dukes has made. His reputation as an accurate observer and his position as an acknowledged authority on all affections to which boys are subject during the school period compel attention to his important communication on rubella, and the minute description he has given of the two diseases which have passed under this name is most convincing. I was, however, prepared for his conclusions. I have said for many years that there were at least three kinds of measles, but the casual and desultory experience of consultation work did not admit of the establishment of the differences by which they might be distinguished one from the other. More particularly it was impossible to ascertain if the different species "bred true." Now that the distinctions have been laid down I recognise their accuracy at once.

I am Sirs, yours faithfully,

Brook-street, W., July 25th, 1900. W. H. BROADBENT.

To the Editors of THE LANCET.

SIRS,—Whilst writing a short note on the clinical contrasts of scarlatina and scarlatiniform erythema my attention was called to Dr. Clement Dukes's article entitled, "On the Confusion of Two Different Diseases under the Name of Rubella (Rose-rash)," published in THE LANCET of July 14th (p. 89). The publication of that article has made more patent to my mind a probable fact which I have for some time suspected—viz., that scarlatina is frequently diagnosed erroneously owing to forgetfulness of the existence of a disease comparatively recently described by Brocq as "erythema scarlatiniforme desquamativum." Though I say that the disease has been recently described under this name the name only is new, since under the designation of "roseola æstiva" the same disease has long been known to us. Dr. Dukes's "fourth disease" is assuredly nothing more or less than our old friend, appearing this time without the dignity of a name. That the difficulty of distinguishing this exanthem from scarlatina is very great is evidenced strongly by the special references of many of the older authors and by modern works devoted to dermatology. More recent works on the practice of medicine are guilty of the sin of omission. The prevalence in an epidemic form of Dr. Dukes's new disease does not, I think, negative the view which I have expressed, as competent observers have related instances of epidemic roseola.

The clinical differences between cases of scarlatina and scarlatiniform erythema have been at all times little discussed, at least not sufficiently considering the importance of the subject. For some time the similarity of the simpler disease to scarlatina in most of the cases of the former which I have seen has been so great that I have considered the subject worth more attention than it commonly obtains. The ability in a given case to declare the presence or absence of scarlatina—a disease attended by so many dangers not only to the individual but to others also in his immediate vicinity—will readily be admitted to be most desirable, and yet, I fear, too often the medical man has to possibly err on the safe side and advise precautionary measures of isolation and disinfection unnecessarily. These precautionary means are at all times quite an undertaking even when necessary and are proportionately more so when directed for a passing exanthem of little importance. The most trying circumstances occur in the case of adults, amongst whom, especially in the case of middle aged females, roseola æstiva is not very uncommon during the summer months. In several cases such as I have mentioned the thermometer has registered an unexpected relatively high temperature; this fact is worth mentioning as I find that one of our best authorities on the matter particularises the fact that in the minor disease rarely does the temperature rise beyond 101° F. Instances of an elevation above this do, I believe, occasionally occur and they serve to indicate the importance of not relying too implicitly upon the thermometer as a guide in differential diagnosis here. I only record the result of my observations after most careful consideration of recent cases under my care where erythema was diagnosed and where the diagnosis was verified, in so far as it was possible to do so, by the absence of the sequelæ of scarlatina or previously acquired immunity, and from the fact that there was no resulting infection from any of them. The practical advantages of directing attention to this subject through the medium of THE LANCET consist, I assume, in recording, after mature consideration, clinical distinctions between the diseases under discussion, preferably after the method selected by Dr. Dukes, in tabular form. I do not wish to recapitulate unnecessarily, nor would I presume to an act almost amounting to a revision of so able an article by appending a lengthened table of diagnosis, but I will briefly state the results of my observations in the form of contrasted sentences.

—	Scarlatina.	Erythema scarlatiniforme.
Eruption... ...	Diffuse, punctiform; affected skin area not hypersensitive; rash when once out does not fade and reappear.	Patchy and erythematous, with well-defined borders; affected areas of skin sore to touch; rash evanescent, disappearing and reappearing in different parts of the body.
Throat	Swelling generally present, and ulceration often present.	Redness of fauces constant; no swelling or ulceration.
Glands	Sub-maxillary glands frequently markedly involved.	Sub-maxillary glands slightly or not at all affected.
Tongue	Strawberry character seldom absent.	Nothing characteristic.
Temperature...	Usually above 103° F.	Seldom reaches beyond 101° F.
Complications and sequelæ	Nephritis, otitis, &c.	None.

I have mentioned in the above table those symptoms only which, in my experience, offer a constant contrast in the two diseases. The transient rise in the temperature (never exceeding 36 hours), the enlarged occipital glands, and the coryza seem to form a combination of symptoms almost pathognomonic of rötheln; at least one would imagine sufficiently so to exclude those affections most resembling it.

I am, Sirs, yours faithfully,

ALFRED RUTTER, M.B., C.M. Edin.

Ryhope, Durham, July 16th, 1900.

To the Editors of THE LANCET.

SIRS,—May I make a suggestion to Dr. Clement Dukes as to the genesis of his "fourth" infectious disease. Living here, where there are educational centres for young people, the first two or three weeks of each term are always more or less anxious to the medical officer of such schools, and he has to act without much time for reflection on his diagnosis and isolate the sick from the healthy and so prevent or arrest the spread of epidemic disorders in the schools or district.

As a student I was taught to regard German measles as a hybrid disease between measles and scarlet fever, but like many other medical men found some cases where the diagnosis was almost impossible, and on two occasions (one in the practice of a colleague, the other in my own) the following serious accident occurred. In both cases the utmost care was taken to eliminate any source of fallacy, so much so in my case that a consultation actually was held before the patient was removed. Years elapsed between the occurrence of these cases, but in both instances the diagnosis was mild scarlet fever; they were both removed to different isolation hospitals and within a week both patients took genuine scarlet fever in the hospital. These cases were doubtless examples of this somewhat mysterious "fourth" disease alluded to in THE LANCET of July 14th by Dr. Dukes. Fortunately epidemics of this so-called "fourth" disease are rare, else more mistakes would occur at infectious hospitals.

While travelling in Spain and Portugal I was struck with the numbers of mules, the importance attached to them, and the care bestowed on their breeding. Of course the mule owes its existence to an asinine father and an equine mother, and our old friend German measles may be looked upon as similarly due to the efforts of the microbes of measles and scarlet fever. But there is another animal which is also a hybrid, which owes its genesis to an equine father and an asinine mother; this animal is somewhat rare and is known as a hinny and would correspond to the "fourth" disease.

I do not pretend to give any details as to the maternity or paternity of the microbes of scarlet fever and measles in the production of German measles, or the "fourth" disease or, as Dr. Dukes calls it, the scarlatinal form of German measles. It is generally believed that hybrid animals have no productive power, but this is not strictly true, and I have most direct evidence of a mule conceiving and bringing forth.

How German measles in both forms could propagate themselves seemed a difficulty at first, but as we descend the scale of animal existence fertility and fecundity increase at a most rapid rate, and the space in development from a horse to a scarlet fever microbe might account for the propagation of the infectious diseases and the difficulty in this direction with a mule or a hinny. Still it is well known that scarlet fever and measles are more highly infectious than these hybrid forms of disease. My object in this short note is to show that the idea of a "fourth" disease had occurred to other minds, and also that anyone who reads this may be prevented from sending a case of "fourth" disease to be treated at a scarlet fever hospital. I have suspicions of another hybrid disease which I hope to refer to on another occasion.—I am, Sirs, yours faithfully,

THOMAS JOHNSTONE, M.D. Edin., M.R.C.P. Lond.

Ilkley, Yorks, July 25th, 1900.

To the Editors of THE LANCET.

SIRS,—If the views given by Dr. Dukes in THE LANCET of July 14th, p. 89, be reliable one important result must not be overlooked. Free desquamation alone will not be a sufficient warrant for a diagnosis of scarlet fever in the absence of a clear history and no other sequelæ. Many a medical man who in days gone by has notified such a case straight away and regarded himself as a public benefactor will in future sit on the fence and do nothing of the sort. There has been an impression abroad that however one might be misled by sore-throats and rashes there was a haven of certainty in "free desquamation." I confess to being rather glad that this haven has been bombarded, and I would like to put another missile into it by insisting that even in measles there may be protracted and free desquamation. Such a case happened to me the other day. Two girls (twins) had ordinary measles with catarrhal symptoms and in one case severe dysenteric diarrhœa. In one of these cases desquamation was going on so vigorously a month afterwards that another medical man who accidentally saw it had an overwhelming suspicion of scarlet fever. Holt is the only author I can find who mentions that the desquamation in measles may be protracted—and even he only allows two weeks—yet here is a clear case of over a month.

I am, Sirs, yours faithfully,

July 25th, 1900. GERALD S. WALTON, M.B., C.M. Edin.

THE APPOINTMENT OF SPECIAL MEDICAL OFFICERS FOR THE CERTIFICATION OF LUNATICS.

To the Editors of THE LANCET.

SIRS,—Now that the "St. Pancras Scandals" have brought up the important subject of the certification of lunatics I think it is a very fit time to make a few suggestions concerning such notification and also as to the after-responsibility of people who have been inmates of lunatic asylums.

In the first place I would suggest that medical officers should be appointed for various districts, as in the case of the medical officer of health, with a fixed salary per annum (and not by the number of cases certified); moreover the medical officer should not be in private practice, so that his opinion on any case would not be biased in any way on account of being afraid of offending patients and their friends. Also such medical officers should have had previous experience in asylums, so as to be in a position to give an expert opinion on the mental condition of any person they might be called upon to certify, and in that way many patients suffering from the delirium of various diseases, such as alcoholism, meningitis, &c., would not be sent (long distances in many cases) to asylums for treatment when they should have been sent to a hospital or infirmary, and their friends, moreover, would be saved much pain and anxiety. Another important point that would tend to prevent patients from travelling in an unfit state would be a rule that every medical officer certifying a patient should see that patient not more than 48 hours previously to admission into the asylum. It would not be out of place to mention that many medical men have never certified a case and if called upon to do so would be at a loss to know what are the chief points to inquire into before certifying that a person ought to be under proper care and control, and, finally, some medical men refuse altogether for fear of prosecution. Such medical officers would also be expected to inquire into the family history of each patient and to observe the kind of home they have, their mode of life as regards drink, sexual habits and excesses, with whom they reside, and the manner in which they are treated by their friends, the knowledge of such matters often being of great importance in certain cases so as to be able to judge if statements made by patients with regard to the treatment they have received, the owning of property and money, are really delusions or not. Also that the medical officer should be present when the patient is interviewed by the magistrate so that if there was any doubt as to the patient's sanity it could be thoroughly inquired into before he was sent to an asylum. In some cases, such as mania following a drinking bout (the patient often recovering in a few days), there is no need to send them to asylums for treatment; in fact, if they were sent anywhere, a home for inebriates or a prison would have a better effect in suppressing such cases.

The above information about patients would also be of great help to the superintendents of various asylums when the subject of the discharge of a patient is under discussion, since it is very important in certain cases to know if he would be properly looked after for the first few weeks after leaving an asylum. Again, while the patients are on "trial" (before being finally discharged) such medical officers should

visit them from time to time, and in the case of a patient showing a relapse at once have them removed to the asylum again; in that way many accidents might be avoided. It might be mentioned here that in cases of medical men certifying their own patients they have occasionally been subjected to much annoyance by violence from such people after their release from an asylum which would probably not happen in the case of an independent certifying medical officer. Another important point is the obtaining of work for patients recently discharged from asylums, in which endeavour they might be materially helped by such medical officers, who would probably be in touch with members of town councils, &c.

Finally, there are many cases of insanity brought to the notice of the police owing to the eccentricities or violent habits of patients, and many accidents might be avoided if in such cases an expert in mental diseases was at once called upon to make an examination. To be able successfully to obtain all these various pieces of information without causing undue offence or annoyance to patients and their friends would in many cases require much patience, tact, and judgment, but I think asylum training, especially if combined with some experience of private practice, should enable a man to cope with the majority of cases.

I am, Sirs, yours faithfully,

Hatton, near Warwick, July 23rd, 1900. O. POLHILL TURNER.

LEADLESS CERAMIC ENAMELS.

To the Editors of THE LANCET.

SIRS,—On Nov. 19th, 1898, at page 1338, and again on Jan. 7th, 1899, at page 49, you were kind enough to notice my efforts towards the discovery and practical introduction of leadless glazes, and as you have referred to the recent Parliamentary debate on lead poisoning I should like to point out an error that some persons fall into by assuming that the general use of leadless glazes would of itself entirely remove the liability of pottery employés to contract plumbism.

Reference to statistics shows that such persons as ground-layers and litho-colour dusters yield quite a large proportion of cases, and yet they do not handle the glaze in a free state; what these people use are the *enamel colours*, which are almost invariably compounds of *fritted* lead with borax and colorant oxides (see pages 7, 8, 9, and 40 of the report by Dr. Thorpe and Dr. Oliver). To meet such cases I have for many months been laboriously experimenting with the object of discovering leadless ceramic enamels, and now I submit some specimens which, although willingly admitted to be more or less defective, are nevertheless sufficient evidence that such enamels will ultimately be practicable. Then, and not until then, will it be possible to entirely dispense with lead compounds and thus completely eradicate plumbism in potteries.

I am, Sirs, yours faithfully,

WM. J. FURNIVAL.

Granville-terrace, Stone, Staffs, July 17th, 1900.

A MEMORIAL TO THE MILITARY AND CIVIL MEMBERS OF THE MEDICAL PROFESSION WHO HAVE LOST THEIR LIVES IN THE SOUTH AFRICAN WAR.

To the Editors of THE LANCET.

SIRS,—The Princess Christian Convalescent Homes for Soldiers and Sailors, now in course of erection at Bisley, will soon be available for use. Many of the beds have already been endowed. The Queen has given two beds, the Duke and Duchess of York one bed for a soldier or sailor, the Princess Christian one for the King's Royal Rifles, and Princess Victoria of Schleswig-Holstein and Princess Aribert of Anhalt one bed for a "green-jacket," &c. Princess Christian has suggested to me her wish that a bed should be endowed for the sole use of the non-commissioned officers and men of the Royal Army Medical Corps. I proposed that the bed should be endowed as a memorial to the members of the medical profession, both military and civil, who have lost their lives in the war in South Africa. The ready response which I have received from a few friends to whom I applied privately, encourages me to hope that the scheme will commend itself to the medical profession generally. The amount required for the permanent endowment of a bed is £600, and towards this the Committee of the R.A.M.C. South Africa Fund has voted £200. From other sources I have received £125, and I now venture to appeal to the medical profession to make up the amount required (£275). I append a first list of subscriptions. Cheques or postal orders should be made out to Mrs. Meredith, and crossed "Barclay & Co., Princess Christian Bed." The fund, when completed, will be handed over to the trustees appointed for all the endowed beds.

I am, Sirs, yours faithfully,

CAROLINE S. MEREDITH.

21, Manchester-square, W., July 23rd.

LIST OF SUBSCRIPTIONS.

	£	s.	d.
R.A.M.C. South Africa Fund	200	0	0
Sir William Broadbent ...	20	0	0
Sir R. Douglas Powell ...	10	10	0
Dr. Church	10	10	0
Dr. Buzzard	10	10	0
Mr. Alfred Cooper	10	10	0
Mr. Somerset Beaumont	10	0	0
Sir T. Lauder Brunton ...	5	5	0
Dr. Barlow	5	5	0
Mr. H. T. Butlin	5	0	0
Dr. Playfair	5	0	0
Lady Broadbent	5	0	0
Lady Vaughan Williams	5	0	0
Mrs. Lang Elder	5	5	0
Mr. Charters Symonds ...	3	3	0
Mrs. W. Marshall Webb	3	3	0
Mrs. Wickham Flower ...	2	2	0
Mrs. Barlow	2	2	0
A Friend	2	2	0
Mr. Alfred Willett	2	0	0
Miss Ewart	2	0	0
Mrs. Johnson	1	0	0
Mrs. Fletcher	1	0	0
Total	326	7	0

PROFESSOR LUSTIG'S PLAGUE SERUM.

To the Editors of THE LANCET.

SIRS,—As a new series of observations with Professor Lustig's curative serum was in progress at the Arthur-road Hospital I did not intend troubling you with any communication on the subject until it was completed. But as your Special Correspondent in India, who seems to have taken the serum treatment of plague under his kind, too kind, protection and considers himself the sole arbiter of its destinies—never so happy as when sounding its death-knell and from which he appears to derive a sort of malign pleasure—is again on the warpath, the interests of truth, no less than those of science and humanity, demand that the true facts bearing upon this most vital question should be placed before your readers.

In the issue of THE LANCET of June 2nd (p. 1608) there appears from the pen of your correspondent a critique on a paper read by Dr. Alfons Mayr of the Municipal Laboratory at Bombay, wherein the various issues and conclusions arrived at by the author are so confused and mixed up by him as to prejudice those not conversant with the subject against this line of treatment and to create a distinctly unfavourable impression. And it is with a view to remove this unjust and unfair prejudice and wrong impression that I have ventured to trespass on your space, especially as I have personally conducted all the observations on the serum treatment and am solely responsible for the results achieved up to now. Dr. Mayr's paper was based, in fact, entirely upon the monthly reports submitted by me officially to the municipal corporation and such other records as I placed at his disposal.

Professor Lustig reached Bombay in June, 1897, after the first epidemic of plague had ran its course. A few sporadic cases, however, existed, and these were placed at his disposal for treatment with a curative serum he had brought with him from Florence. The results proved extremely satisfactory. As material for further observation was not available in Bombay he proceeded up country and treated some 30 cases with results equally satisfactory. When, some time after his return to Florence, he learnt that another epidemic had broken out, he offered to prepare and send down some serum with a view to test its efficacy on a sufficiently large scale, and it is needless to say that his offer was thankfully accepted by the corporation. Early in March, 1898, Dr. (now Professor) Galeotti and Dr. Poluctinci arrived in Bombay with a quantity of serum, and as the epidemic was at its height arrangements were made to begin at once with the serum treatment. As the supply of serum was to reach Bombay from time to time and at irregular intervals, and was to be limited, and as the objects then in view were to test its value on a clinical basis and to watch its effects from day to day on the more pronounced symptoms of plague, the following procedure was adopted in treating the cases. All moribund cases (those in which the action of the heart had

become gravely impaired and exhibited signs of failure or impending failure) and as also all convalescents and semi-convalescents were excluded from the treatment. The reasons for such exclusion are sufficiently obvious to all experimenters. Whenever a new mode of treatment has to be tested it is usual to eliminate all disturbing factors that tend to vitiate the final results. And as it was found from our experience of plague that the two above-named classes of cases were such disturbing factors they were excluded. The former when admitted into hospital were generally found to be beyond the reach of all possible human help, and in the case of the latter it was soon recognised that half the battle—nay, more than half and that the most important—had been already fought and won outside the hospital, and no further assistance was required. Moreover, just as the inclusion of the moribunds would not have told against the serum treatment the non-exclusion of the convalescents would have failed to convince us of its value. Nowhere, so far as I am aware, is such material selected for experiments with new methods of treatment, and in adopting this procedure there was no violent departure from the methods in vogue elsewhere—in fact, there was ample justification for it in a preliminary trial.

The first series of observations lasted from March to November, 1898, and again from February to May, 1899. During the course of this period 403 patients received the serum treatment and 1190 patients were treated by ordinary methods. The clinical effects of the serum were watched from day to day, and although in some very grave and advanced cases the patients ultimately succumbed the immediate effects on the general condition of the patients were extremely well marked, and this indicated either that the dose of the serum was too small, or that it was not strong enough, or that the treatment was commenced too late. But on the whole the improvement was quite perceptible and gratifying. When at the termination of these observations the results were tabulated it was found that the serum-treated cases had a recovery rate of 38·2 per cent., whereas that in those not so treated was 19·5 per cent. only. The latter rate was, however, not less than that of the other large public hospitals, and the combined admissions numbering 4762 in two of the largest during the same period had a recovery rate of 19·7 per cent., and thus it becomes apparent that the exclusion of moribunds and convalescents did not tell in favour of the serum by reducing to any extent whatsoever the mortality rate in those treated by ordinary methods. In fact this system of "selection" so-called or rather mis-called, was so strict and accurate as to eliminate even all mild cases, for were it otherwise the mortality rate in the serum-treated cases ought to have mounted up much higher than the average of the other hospitals.

The second series of observations was commenced in May, 1899, and is still being continued. The object with which this series was started was to determine the statistical value of the serum, and hence it was resolved to conduct observations on 1000 cases of plague, 500 to be treated with the serum and 500 by ordinary methods, the latter acting as controls, and the cases were to be taken for treatment *alternately* in the order of admission and *without any attempt at exclusion of any sort*. But objection to this method of treatment was the preponderance of either moribunds or convalescents in either set vitiating the final results. It was, however, anticipated that in two such large sets of 500 cases each these would equalise at the end, and thus no undue advantage would accrue to one side or the other. We shall see further on whether and to what extent this anticipation was justified by practical experience. Further, in order to arrive at strict accuracy and to eliminate all errors some standard had to be fixed as to what cases should be classed as moribunds and as convalescents. It was therefore determined to fix the limit for the former at 24 hours, and all patients dying within 24 hours of admission were considered as moribunds, but it was subsequently found that a large number died between 24 and 27 hours of admission, and hence 27 hours was adopted as the standard. As regards convalescents,[1] all those that had gone over the acute stage of the disease and had a normal temperature or thereabouts and had suppurating or suppurated and open buboes were considered convalescent.

And now as to the results. Up to the end of last month 480 cases have been treated with the serum, and 480 cases have become their controls, under ordinary treatment:—

	No.	Died.	Recovered.	Percentage of mortality.	Percentage of recovery.
Serum cases	480	328	152	68·33	31·67
Control cases	480	382	98	79·58	20·42

The serum cases show a recovery rate of 31·67 per cent., whereas the controls have a rate of 20·42 per cent., a difference in favour of the serum of 11·25 per cent. But the above results are not strictly accurate, and have been rendered fallacious by the undue preponderance of moribunds and convalescents in each series. The anticipation at first entertained about the equalising of these has not been realised in actual practice and thus an element of error has been introduced into the statistics. The 480 serum cases were found to include 139 moribunds and 28 convalescents, whereas the controls had 145 and 38 respectively. The former had an advantage over the latter of six less moribunds, whereas the latter were better off in convalescents by 10. Hence for a strictly accurate comparison, the only course open is to eliminate all the moribunds and all the convalescents from either series, and then deduce results from those remaining. If that is done, the results stand as below.

	No.	Died.	Recovered.	Percentage of mortality.	Percentage of recovery.
Serum cases	313	189	124	60·38	39·62
Control cases	297	237	60	79·79	20·21

The percentage of recovery stands thus at 39·62 per cent. for the serum cases, and 20·21 for the controls, a difference of 19·08 per cent. in favour of serum. These results clearly indicate the value of serum treatment in those cases that are really acute and fit for treatment, and show that in these it is possible to very nearly double the recovery rate by the use of serum. These differences in the percentages do not, however, show the full value of the serum treatment, and that could only be arrived at by following the method adopted by Professor Haffkine in determining the life-saving value of his prophylactic inoculations against plague. That system is based on calculating the relative ratios of mortality amongst the inoculated and non-inoculated, and if the same system be adopted for the serum treatment the ratio of recovery in the serum cases as to control cases would be as 1 of control to 1·55 of serum in *all* cases, and 1 to 1·96 when the moribunds and convalescents are excluded from both the series. Or to put it in another way, if 100 cases out of a given number recover under ordinary treatment the same number if treated with the serum would give 155 recoveries. And therefore the percentage of recovery is enhanced in one case by 55 per cent. and by 96 per cent. in the other.

These, Sirs, are the plain and unvarnished facts with regard to the use of Professor Lustig's serum in the treatment of plague and they place before the reader the truth, the whole truth, and nothing but the truth. We have no reason to be dissatisfied with the progress made within two years of its application. Neither the mode of its preparation nor its application at the bedside have yet been finally determined and it is only by further research, experiment, and prolonged clinical observation that we shall be enabled to place it on a proper basis. So far as we have gone we have been able to prove that the serum treatment is the only treatment that can in any way appreciably reduce the high mortality of plague and we abide by our experience. When the diphtheria antitoxin required more than a decade for its perfection is it not reasonable that sufficient time should be allowed for the application of a serum against a much more rapidly fatal and more deadly disease like plague? And is it demanding too much of special correspondents to ask them to withhold awhile their *obiter dicta* and let those best conversant with the subject to work out, quietly and undisturbed, their destiny until they reach their goal, which has but one and only aim in view—viz., the lessening of human suffering and the saving of human life?

I am, Sirs, yours faithfully,

N. H. CHOKSY, M.D.

Chief Medical Officer, Arthur-road Hospital.

Bombay, July 7th, 1900.

[1] All those that were taken as convalescents in both the series ultimately recovered, and there was not a single death amongst them.

"RODENT CANCER OF THE CORNEA."

To the Editors of THE LANCET.

SIRS,—The interesting case published under the above title by Mr. Sydney Stephenson in THE LANCET of July 21st

would have been much more valuable had the diagnosis of cancer been verified. Judging from Mr. Stephenson's description and diagram the characters of the disease in his case agreed so closely with those of the well-known though somewhat rare chronic creeping ulcer of the cornea, in which there is, I believe, no suspicion of malignancy, that one is compelled to ask in what particulars Mr. Stephenson's case differed from the type? It has always seemed to me unfortunate that the term "rodent," already in use for a form of cancer of the skin, should also have come into use to designate this form of corneal ulcer. If Mr. Stephenson's case were cancerous one can only say that rodent cancer of the cornea, though not hitherto recognised, cannot be very uncommon, for the form of corneal ulcer apparently illustrated by Mr. Stephenson's case is described in most of the standard works on diseases of the eye. The galvanic cautery vigorously applied to the extending border seems to succeed better than any other treatment, but some cases baffle all attempts at cure.

I am, Sirs, yours faithfully,

July 25th, 1900. E. NETTLESHIP.

"ARSENIC IN SODIUM PHOSPHATE."

To the Editors of THE LANCET.

SIRS,—In your criticism of the above case contained in your issue of July 21st, p. 208, after stating the fact that we can supply phosphate of soda free from arsenic, you say: "It is a pity, we think, that if, as these druggists state, they knew of the important impurity they did not give greater and earlier publicity to the fact." As manufacturing chemists we certainly do not feel it our duty to warn the public, the medical profession, the wholesale chemists, or other manufacturing chemists of impurities not provided for by the British Pharmacopœia and contained in the products they are interested in. Our duty appears to us to be in making our articles free from these impurities and of the highest standard of purity.

We are, Sirs, yours faithfully,

MAY AND BAKER, LIMITED

(per W. E. B. Blenkinsop, Managing Director).

Battersea, S.W., July 24th, 1900.

"THE COMPARATIVE GERMICIDAL ACTION OF SOME DISINFECTANTS."

To the Editors of THE LANCET.

SIRS,—My attention has recently been drawn to a paper under the above heading in THE LANCET of June 23rd (p. 1797), by Mr. Arthur H. Burgess of Manchester, and I write to point out that the comparative results obtained by him are greatly at variance with those of other observers and that in my opinion this discrepancy is due to the method which has been employed in arriving at these conclusions. The thread method was formerly much used, but as far as I am aware is seldom employed now as it was found to give discordant results. In my own practice I have given it up almost entirely, except in testing spore-bearing organisms under certain conditions and also in experiments on gaseous disinfection, owing to the uncertainty of its results and the difficulties of manipulation.

One of the difficulties attending the thread method is that due to grease, and Mr. Burgess in his paper does not mention whether he took precautions to ensure the freedom of the threads from grease, as he only refers to sterilising them before use. The most important error, in my opinion, arises from the fact that when the threads are partially dried without any attempt being made to remove the organic matter of the broth emulsion, a film of dry albuminous matter is formed which protects the organisms, and that therefore I cannot agree with Mr. Burgess when he says that "the bacilli are freely exposed to the action of the disinfectant in solution, no albuminous matter being present." Another point which is worth bearing in mind is the fact that it is almost impossible to conduct a series of inoculations in such a short interval as one minute, and if Mr. Burgess used different cultures for his one-minute experiments then the results are not strictly comparable. I notice that his sub-cultures were incubated for 10 days. This time seems unduly prolonged, as with most cultures of bacillus coli communis a growth or turbidity occurs in a much shorter time than that when kept at blood heat. The method described by Mr. J. T. A. Walker in his letter[1] is one which I have employed for some years in a slightly modified form, and I believe it to be at present that which gives the most regular and constant results, and it would be interesting if Mr. Walker would publish in your journal the experiments referred to in his letter as they could then be compared with the results obtained by Mr. Burgess.

I am, Sirs, yours faithfully,

SAMUEL RIDEAL.

Victoria-mansions, Westminster, S.W., July 25th, 1900.

PLAGUE IN TURKEY.

(FROM A CORRESPONDENT.)

FOR some months past plague has been present in more than one portion of the Turkish Empire, but up to the present it has nowhere given rise to anything of the nature of a severe epidemic. The outbreak which has naturally caused the greatest apprehension has been that in Smyrna, on account of the size and importance of the town, of the amount of shipping constantly visiting the port, and of its proximity to Constantinople. Fortunately, the outbreak has so far been of a very mild character, only 17 cases in all having been reported in the course of over two months. But the slowness with which plague takes hold of a place is a well-known character of the disease, and bearing the example of Calcutta and other places in mind it is impossible not to feel some degree of apprehensiveness for the future behaviour of plague in Smyrna.

The first recognised case of the disease there was seen on May 7th, when the patient had already been ill some few days. The patient was an elderly Jew, 60 years of age, living apparently in very poor circumstances. The second case occurred on May 26th, or nineteen days after the recognition of the first case. This patient was also a Jew, a youth, aged 23 years, who occupied a *khan* some quarter of a mile away from that occupied by the first patient; he was taken ill apparently on May 25th. Another short interval without a case followed, but on the night of June 4th–5th a third person fell ill with the disease. This was a boy, an Ottoman, aged 14 years, acting as domestic servant in the Ski-Tchesmelik quarter, a long way from the part of the town where the other patients had lived. The fourth case was also that of a Turk, a man aged 45 years, who lived outside the town of Smyrna, on a hill called Mount Bech-Tepé, where a few people dwell in a small group of isolated huts. He was first seen on June 15th, but the date of his attack is uncertain. All these four persons suffered from the disease in a remarkably mild form and all recovered. In each the diagnosis was made certain by the isolation of the plague bacillus from the bubo. In none could any direct connexion with a previous case of the disease be traced. The fifth case, on the other hand, ended in death, and it proved to be the first of a group of cases which occurred in and around a particular *khan* or group of houses. This is known as the Echeref-Pasha *khan* and is situated in the Bach-Durak quarter of the town. The fifth, sixth, seventh, ninth, and eleventh cases of plague were all in persons inhabiting this *khan* or its neighbourhood. The remaining cases, into the details of which it is scarcely necessary to enter, occurred in various other quarters of the town, and little or no trace of connexion could be found between the successive cases. The last was reported on July 8th; the patient had been ill since the 5th. A week has now elapsed without a fresh case being reported; this is reassuring as far as it goes, but in view of the wide extension of the infection throughout the town of Smyrna only the most sanguine can venture to hope that the outbreak is over and the infection completely eradicated. A less reassuring feature of the outbreak is the tendency shown to a successive increase in the fatality of the disease. At the outset it was of a mild character, and the first four cases all recovered, as already stated. Then followed, between June 17th and 27th, ten cases, of which three proved fatal; but on July 1st, 4th, and 8th three fresh cases were reported, every one of which proved fatal. It is interesting, in connexion with the Smyrma outbreak, that no sickness or mortality among rats has, it

[1] THE LANCET, July 21st, 1900 (p. 222).

is said, been observed. The serum treatment was employed in some of the cases with more or less satisfactory results.

At Trebizond a single case of the disease has been reported. The patient was a child, aged five years, who fell ill on June 11th. Her father was employed in the Custom House in looking after contraband goods, and it has been suggested that the infection may have been imported by means of some goods of this nature. The child had a very mild attack of the disease and for a time it was hoped that in spite of the clinical appearances it was not plague at all. The bacillus could not be found in smear specimens from the contents of the glands, but after some days it was found by means of culture and by inoculations into guinea-pigs, and all doubt as to the specific nature of the disease was thus removed. Fortunately, no subsequent cases have occurred, and it seems possible to hope that, as active measures of isolation and disinfection were at once enforced in regard to this single case, Trebizond may escape without any further spread of the disease.

In the Hedjaz plague has almost disappeared. In the week ending July 9th three deaths from the disease were reported from Jeddah and none from Yambo. In Jeddah from the beginning of the outbreak on April 26th up to July 9th the deaths from plague were in all 81; and at Yambo from April 11th to the same date the deaths numbered 67. It is noteworthy that the outbreak in Jeddah this year, as in past years, coincided with the great annual pilgrimage to Mecca and Medirah.

The remainder of the Turkish Empire appears to be for the present quite free from plague. A few cases of the disease recently occurred in the well-known endemic centre of plague in Assyr, in Arabia. Mesopotamia, on the other hand, where the disease has from time to time prevailed in past years, has this year apparently remained free from it, although in Persia, at no great distance from the Turco-Persian frontier, an outbreak of some severity has occurred within the past few months.

July 15th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending June 9th are as follows. Remaining at the beginning of the week, 88; admitted, 4; discharged, 5; died, 3; remaining at the end of the week, 84. The totals up to the end of the week are as follows. Cases 258; deaths, 95; discharges, 89; contacts, 1512; remaining, 81; cases among contacts, seven. The Chinese are included among the above figures, of whom there were attacked 10, with eight deaths. All other patients were whites.

The number of attacks during more recent weeks having been 38, 23, 23, seven, 17, and four. It is hoped that the epidemic may now be nearing its end.

From time to time sick cats have been mentioned by owners, but on inquiry it was usually found that they had already been got rid of. Two or three have been submitted to examination, however, but the bodies of these felines have furnished no evidence of plague until this week in the case of an animal which was secured and forwarded by a medical man and which was dying at the time of its being received. Having been killed with chloroform, it was found that the cervical glands were swollen and full of plague bacilli. No other organs were affected. The only other evidence that cats could and did suffer from plague came from Mauritius in the course of last year.

June 11th.

By the week ending June 16th there were remaining at Sydney suffering from plague 84 persons; 10 more patients were admitted and 15 were discharged; three died, leaving 76. The totals at this date read: Cases, 278; deaths, 98; discharged, 104; "contacts," 1559; "contacts" remaining, 100; and cases among "contacts," seven. Included among the above are cases among the Chinese, of whom 10 have been attacked, with eight deaths. All the other patients were whites.

No reason at all has appeared for supposing either that the cases recorded during previous weeks have not included practically all cases which have occurred, or consequently that the recorded cases were accompanied by a proportion of the ambulant cases usually observed or assumed during epidemics elsewhere. Recently, however, two or three such cases have been encountered. Thus a case which turned out to be plague having been reported by a medical man it was ascertained during inquiry that the patient's father had fallen ill just a week earlier. He had stayed from work for one or two days but had not thought it worth while to consult a doctor, yet he had an inguinal bubo of small dimensions and had had other symptoms which rendered it quite easy to give a confident diagnosis of plague. In another case, which came to light incidentally, the patient had never given up work; he also had been ill about a week and had a slight bubo. Both of these cases, which were promptly isolated at the plague hospital, would have been overlooked but for circumstances quite unconnected with the illnesses.

The second series of public inoculations yielded in all not more than 2500 inoculated in the course of more than a month, and has consequently been closed. Prophylactic serum is now being distributed to medical men; the demand is small and as such diffusion of it has practically no bearing on its use to prevent or abate an epidemic this need not be regretted. At all events, such preventive use of it has been made as the public would allow.

June 19th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Birmingham and Midland Eye Hospital.

THE annual meeting of the governors of this hospital was held on July 20th, when the seventieth annual report was read. In this it was stated that the extensive and necessary sanitary arrangements of the hospital had been completed, much to the comfort and well-being of the institution. The annual subscriptions amounted to £3716, and the donations to £792 11*s*. The total payments for the year amounted to £7204, but of this no less than £1429 had been expended upon repairs, including the sanitary alterations alluded to. The total number of patients were: in-patients admitted with ticket 589, without ticket 125; out-patients admitted with ticket 17,920, without ticket 9913. The medical report showed that 788 operations had been performed upon in-patients, 315 of which were for the removal of cataract or capsule, of which only three were unsuccessful. Iridectomy was done in 176 cases, and 93 eyes had to be removed. The number of operations on out-patients was 504, including 77 for the cure of squint and 293 for the removal of tumours from the eyelids. The committee expressed their satisfaction at the increased facilities for the accommodation of the nurses and servants. The question of affording aid to the children of the elementary schools who are known to want some sort of mechanical assistance to their eyesight was a subject which had engaged the attention of the committee, the chairman stating that no practical plan had at present been settled, the matter being beyond the power of the staff to deal adequately with such demands as would be made upon them from this source.

University of Birmingham.

The munificent donation of £50,000 from Sir James Chance comes as a welcome addition to the amount required to complete the endowment fund, which is stated to be £250,000. Equally generous is the gift of land from Lord Calthorpe and his son which is valued at £20,000. The new university has been fortunate in the friendship of those who have made large donations. Mr. Andrew Carnegie gave £50,000, and an anonymous donor a similar sum. The total amount promised in land and money reaches about £400,000, of which amount one half has been furnished by six donors. This is an encouraging example, yet there are still numbers who might swell the total by combined efforts in the cause of this valuable scheme in this great industrial centre.

Misleading Statistics.

It is a saying attributed to Sydney Smith that there is nothing so fallacious as figures except facts. The truth of the first part of the proposition is illustrated by the weekly return of the medical officer of health one week being 19·2 per 1000, while in the previous week it was only 15·6. It seems that the statistics from the workhouse had not been included in the latter return. It was stated in explanation at a meeting of the guardians that their returns were made

to the registrar's office and that the blame was not to be attributed to them. The entanglement of red tape appears to have come in as an element of error, and it is to be hoped that some arrangement between the respective authorities will cause some adjustment which will make these returns reliable as authoritative statements from the proper quarter.

July 24.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Manchester Sewage Case.

MR. YATES, Q.C., the stipendiary magistrate, delivered judgment on July 11th in the case of the Mersey and Irwell Joint Committee against the unhappy Manchester Corporation, which for a long time past has been in the condition, so far as the sewage question goes, of living between the hammer and the anvil, or, as some would have it, between the devil and the deep sea. It would be invidious to distinguish in the latter simile, but the Local Government Board, stolid and immoveable, may represent the anvil, while the Joint Committee hammers vigorously and repeatedly, the corporation having a bad time of it as it lies between the two. The corporation has a scheme believed to be efficient which the Local Government Board does not sanction. Meanwhile, pollution goes on to a disgraceful extent so that the Joint Committee prosecutes the corporation. As the magistrate said: "The difficulty really is that a proportion of the corporation do not realise the absolute necessity of doing at once what alone the Local Government Board will sanction, and do not realise the great injury they are doing day by day to those below their outfall." The Board insists on the purchase of land for filtration; the corporation does not want to buy land for that purpose nor does it go on with its own bacterial scheme, and so this filthy sewage flows into the Ship Canal and poisons the air for miles along its course, but it is said that plans and specifications are being prepared and that the whole question will be considered in September, and for that reason the magistrate did not "impose penalties for all the days referred to in the summons, but considering that this is the second occasion on which we have had to impose penalties we think that they must be increased, and we therefore impose a penalty of £50 in respect of each of five of the days (amounting to £250 and costs). We ought to add that if nothing is decided in September we shall have no option but to impose penalties, if asked to do so, *de die in diem*." If the hot weather continues, as it may, for the next two months the condition of the Ship Canal will be better imagined than endured.

The Extinction of Rabies.

It appears that the Board of Agriculture has now no muzzling orders in force. In 1895 as many as 672 cases of rabies were reported, but they have gradually decreased till last year when there were nine. The county of Lancaster suffered specially, having nearly a fifth of the total number of outbreaks. There were only five cases in 1898 and none since, so that we may hope to have done with the disease unless there is re-importation. The restrictions as to the movements of dogs into and out of the country seem in some cases unnecessary and pedantic, but it is as well to err on the side of caution and safety even at the cost of occasional private inconvenience and annoyance.

Glass in the Streets.

It is not very often that one finds public attention roused to one of the dangers of our streets and roads, that of broken glass; yet it has been recognised as a danger certainly since 1844, when an Act of Parliament gave magistrates power to impose a fine of 40*s.* for throwing broken glass into the streets. It is well, therefore, that the attention of the Manchester Watch Committee was drawn on July 12th to this "idle and senseless practice" by an influential deputation. The representative of the Royal Society for the Prevention of Cruelty to Animals spoke of the injuries to horses and other animals through broken glass. The Manchester and District Cycle Traders' Association, the Tram-owners' Association, the Mineral Waters Manufacturers, the Cyclists' Touring Club, the National Cyclists' Union, the Motor Car Club, the cycle employés of the Post Office, and other organisations were represented and concurred in the appeal to the committee. The numbers interested in this matter are very great. There are said to be 25,000 cyclists in the city whose tyres are endangered, as well as the numerous owners of rubber-tyred vehicles of all descriptions. The deputy-chairman of the committee told the deputation that there had been two prosecutions in the previous week, pointed out the great difficulty the police had in detecting offenders, and invited the cöoperation of the general public. The throwing about and breaking of bottles is one of the bad habits of the British tripping public when holiday-making and is a great and dangerous nuisance in the country and the seaside. The education of the day has not done much as yet to soften manners and render them less brutish. This, however, does not come within the scope of the new code.

July 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Dublin.

THERE has as yet been no practical outcome of the recommendations of the Viceregal Public Health Committee, but it is satisfactory to note that there has been nevertheless a steady and considerable reduction in the death-rate of the city extending now over many weeks. This is all the more important inasmuch as the city is already crowded with tourists, while an entirely unprecedented number of visitors are expected over next year to follow in the footsteps of Her Majesty the Queen.

The Dublin Boundaries Bill.

The judgment of the joint committee of both Houses as regards the Dublin Boundaries Bill was made public on July 19th. In connexion with the health of Dublin it is satisfactory to note the unanimous decision of the committee that it would be better to have the treatment of the sewage and drainage of the city and townships under the same administrative control. The recommendation is to appoint a joint drainage board for the city, Rathmines, and Pembroke representing the corporation and the two urban councils and to distribute over the entire area the past and future burdens of both systems of drainage. From the reply obtained from Mr. Balfour quite recently, in answer to a question put by Mr. T. Healy, M.P., this proposal of the committee will probably soon take legislative shape. In this connexion the corporation have scored a distinct success, for they have secured the condemnation of the outfall advised by the townships, while both Pembroke and Rathmines will eventually be forced to pay their share of the main drainage scheme.

Unqualified Midwives.

An inquest on a case of very great importance, especially at a time like the present when there is such a discussion in reference to midwives, was held on July 17th. It would appear that a married woman of the poorer classes, aged 34 years, died at her residence in a working-class district of Belfast on July 10th from post-partum hæmorrhage, having been previously confined of twins, one of whom was still-born. She had been attended by an unqualified "handy-woman" who, in her evidence, said that she had been practising midwifery for 20 years and had attended the deceased at six different confinements. A certified nurse who was called in found the woman (the children having been previously born) in a dying state. The confinement was in the evening and the "handy woman" said that on the next morning and afternoon she advised that a medical man should be sent for. The certified midwife swore that had she attended the woman in the morning and had seen her condition, as deposed by the "handy woman," she would have considered it her duty to have sent for a medical man. Dr. R. Munn said that death was due to post-partum hæmorrhage. He believed that a proper midwife would not have hesitated on insisting that a medical man should be sent for. The coroner, in summing up, said it was a terrible thing that the lives of people should be sacrificed by persons presuming to act as skilled nurses. If proper medical help had been procured both the mother's and the child's life might have been saved. The jury found that in the case of the mother death was due to hæmorrhage, and they considered that the woman who attended her did not bring about the death by want of skill or attention to her duties. The coroner said that all the jury had violated their oaths by arriving at a verdict contrary to the evidence and in the very teeth of the evidence. The foreman

protested against this allegation. In the case of the child the jury found that it was stillborn. The case is a most unsatisfactory one. On the one hand, those who really knew medically the circumstances of the case said that a medical man should have been called in. On the other hand, a lay jury said the "handy woman" was not at fault in neglecting to summon such advice. The whole case, by lifting the curtain, gives us an idea how the poor are still liable to be attended by the most ignorant women who have had no training; and it is a strong object-lesson in favour of preventing any of the so-called "handy women" being allowed charge of such cases. The better trained a nurse is the more quickly will she recognise that the gravity of the case demands that she should summon a medical man to her assistance.

The Typhoid Fever Epidemic at Belfast.

During the week preceding July 14th it appears that 34 cases of typhoid fever have been notified as compared with 41 in the corresponding one of the previous year. The death-rate from the principal zymotic diseases was 1·6, the death-rate from all causes being 15·7.

The Royal Victoria Hospital, Belfast.

It is said to be probable that the foundation-stone of the New Royal Victoria Hospital will be laid in September by the Prince and Princess of Wales when they visit Ireland.

Disastrous Shipping Accident in Belfast Lough.

On Saturday afternoon, July 21st, in a fog in Belfast Lough, two Scotch steamers, the one full of excursionists returning home from the North of Ireland to Glasgow, the other returning comparatively empty from Scotland, came in collision. The one vessel struck the other with a sliding blow, her anchor scraping along the side of the other and occasioning terrible injuries to the excursionists lining the rail. The excursion steamer returned to Belfast when the injured were removed by the admirable ambulance system (three vehicles were constantly employed) of the city to the Royal Victoria Hospital, where the resident and visiting staff (hurriedly summoned by telephone and messengers) had a very busy evening and night. It is said that five people, owing to the collision, have been killed; 21 are retained in hospital, and an immense number have been treated as extern patients. Not since the terrible railway accident at Portadown have the Royal Hospital staff had to cope so suddenly with such a serious surgical state of affairs. The company owning the steamers, the injured, and their friends have expressed their profound thanks to the hospital authorities and to the fire brigade for the splendid ambulance arrangements. From a surgical point of view there was a large number of injuries to the lower extremities (many of them compound fractures), some head cases, and a special feature was the unusual amount of shock present.

Dispensary Medical Officers and their Holidays.

So far the Local Government Board has made no order for the guidance of the dispensary committees on this much-discussed question and as a result the medical officers are being treated very badly. Here is the latest example. At the Downpatrick Board of Guardians Mr. D. S. Browne, dispensary medical officer of Portaferry, applied for three weeks' leave of absence, nominating Mr. V. P. Tighe of Dublin as his substitute. The guardians, however, agreed to allow him only a fortnight, congratulating themselves on their power to determine the duration of the medical officer's holiday pursuant to the late judgment in the Court of Queen's Bench. It is a great pity, after the statement of the Chief Secretary of Ireland in the House of Commons, that the Local Government Board delays so long in settling the matter. It is certainly not a sign of strength on their part.

The Annual Reports of the Resident Medical Superintendents of the Cork and Kerry District Lunatic Asylums

From the above reports it appears that the number of inmates in the Cork Asylum has increased by 36 and in the Killarney Institution by 22. In the Cork Asylum there are 1496 inmates, which is 239 over the standard limit; while in the Killarney Asylum there is still a small margin of accommodation available as the number of patients was 526 and the number for which there is accommodation is 683. In his report Dr. Woods, the resident medical superintendent of the Cork Asylum, makes the following instructive observations on the causes of insanity: "A further explanation for the steady increase in numbers must, I think, be set down to heredity. In many of my annual reports for the past 25 years I have laid stress on this fact, but some things cannot be said too often, and as the composition of asylum boards has within the last year so materially changed I think no harm can be done by again referring to the matter. Emigration tends to remove the fittest, those best able to withstand the battle of life, from our midst, leaving at home the delicate, the neurotic, and many liable to transmit to posterity the seeds of disease; the result is that at least 35 per cent. of cases of insanity in this country are directly traceable to heredity."

July 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Instructions for Troops going to China.

LAST week I mentioned the circular issued by the Minister of Marine giving instructions as regards principles of hygiene to the troops under orders for China. The circular points out that the chief points noticeable from a hygienic point of view in that portion of Northern China which lies between Tien-Tsin and Peking are the great extremes of heat and cold and the abominable quality of the water. Drinking-water in China, says the circular, is of very bad quality and the Chinese hardly ever drink it pure but substitute tea. In ships of the French navy serving in Chinese waters distilled water has been for many years exclusively used and thanks to this custom the health of the companies of French ships has been maintained in good condition under the most adverse circumstances. For an expeditionary corps operating in these parts the question of how to obtain a pure supply of drinking-water is very serious. Troops on the march cannot be supplied either with distilled water or with that sterilised in a special apparatus, for this latter is only available in hospitals and other permanent establishments. The most that can be done is to boil the water and even this measure in the circumstances under which an expeditionary force works is difficult to carry out. However, the ordinary drink of the Chinese is tea and therefore it is necessary to keep ones eyes open for this drink which is the common drink of the country and which has the additional advantage of being cheap and sustaining. On the march use should be made of the pocket filters made upon the Lapeyière system with potassium permanganate. These filters have the advantage of destroying large numbers of noxious germs from water, and several of these appliances have been given out to the troops. Wells, which in China are always contaminated, can be cheaply and easily disinfected by the permanganates either of potassium or of calcium. From five to 10 grammes of permanganate of potassium are enough for a litre of water. Coincidently with the permanganate the use of a mixture of one part of powdered charcoal to three parts of fine sand is recommended. Soldiers should by all means avoid the use of alcohol which is so widespread in China. In the north of China they distil a spirit from *sorghum* (cane) which is of deeper colour in proportion to its inferiority. It is sold at from 60 to 100 sapeks per litre, that is to say, at from 30 to 50 centimes. Spirits are also distilled from sundry kinds of grain which are most impure and dangerous to health. Butcher's meat can be obtained in plenty, as well as poultry, game, fresh vegetables, and fruit of excellent quality. As a general rule the use of pork should be eschewed, the pig being frequently affected with cysticercus and trichinosis. Fresh-water fish is always bad and tastes of mud, as do the fresh-water shrimps and crayfish owing to the dirty condition of the watercourses, and all these had better be avoided. During the hot season malaria is very prevalent in the Pei-Ho basin and the precautions laid down for troops operating in malarious countries must be strictly observed. For any special means to be adopted the commanding officer must confer with the principal medical officer. Heat-stroke and sun-stroke are common in July and August and congestions of the liver are frequent during the summer. After malaria, however, the dominating pathological factor of the summer in China is diarrhœa. Every case of diarrhœa, however slight, should be treated at once, for epidemics of cholera are frequent in China, and any diarrhœa may be a starting point for an attack of cholera if cholera vibrios happen to be present in the intestine. During the winter respiratory affections are common, in

addition to rheumatism, diphtheria, and typhus fever of a petechial type. Small-pox is practically endemic, vaccination being almost unknown outside centres having a resident European population. Revaccination should therefore be carried out throughout the expeditionary corps. For the hot season troops should be supplied with cholera belts, mackintosh sheets, and mosquito curtains. For the bitter winter of Northern China troops should be supplied with additional warm clothing and the commanding officer should be instructed to allow both officers and men to wear furs, which can be obtained in the country at a cheap rate.

Medicine and the Theatre.

Among the numerous congresses which are at present being held in Paris and of which many deal with questions never before discussed, as is only fitting at the dawn of a new century, is one which, although at first sight it would appear to be far removed from having any medical interest has yet put down on its programme a series of questions of the deepest interest to medical men. I allude to the Congress on Theatrical Art which will sit from July 27th to 31st. Here will be discussed the following questions which are most interesting from a hygienic point of view: the mode of nominations and status of the medical men attached to subsidised theatres; the best method of organising the medical department and its relations with the Prefect of Police; the statistics of accidents occurring in the course of representations or rehearsals; the inspection and upkeep of emergency chests (*boites de secours*); medical aid to the staff at their homes; reports and opinions; the unhealthiness of rooms, the stage, and the dressing-rooms; warming and ventilation; the representation and the powers of medical men on the governing body of theatres; consideration of the arrangements which could be carried out in the building of the next popular theatre. A report will be laid before the Congress and a committee appointed which will sit until some practical conclusion has been arrived at. M. Lefeuve is in charge of the report and those interested in the matter are requested to communicate with him. Another congress dealing more especially with music will consider the hygiene of singers and instrumentalists. This congress will begin in November and will be assisted by the advice of the most experienced artists and professors.

July 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

An Alleged Hospital Scandal.

A CONSIDERABLE sensation was caused not long ago by an article published in the *Medicinische Reform* drawing attention to a paper in the *Archiv für Klinische Medicin* wherein Dr. Strubell, an assistant in the Jena Medical Clinic, had described certain methods used by him in the treatment of a case of diabetes insipidus. Dr. Strubell endeavoured to combat the disease by limiting the daily quantity of drinking water to a very small amount, the effect being that the patient suffered very much from thirst and procured water and other beverages secretly. Dr. Strubell accordingly locked the man in a room with barred windows and kept the key himself. The sufferings of the patient were described in an unfeeling manner by Dr. Strubell who mentioned that the man was found to have drunk from a waste pipe near the window; he was so tormented by thirst that he drank dirty water out of the washing-tub and even his own urine. Symptoms of cardiac failure appeared during the treatment, and eventually the patient had to be discharged. In the above-mentioned article printed in the *Medicinische Reform* Dr. Strubell's proceedings were very severely blamed, especially because the tenor of his communication might induce readers to believe that the patient was subjected to this treatment not for curative but for experimental purposes. The editor of the *Medicinische Reform* stated that the medical press and the medical profession disapproved of such methods, and he hoped that the medical profession might be able to come to an authoritative decision on the matter without the intervention of non-medical journals. Unfortunately, the expectations of the *Medicinische Reform* were not realised, Dr. Strubell's article being at a later date severely blamed by several non-medical journals of different political views. For several weeks the columns of the newspapers were filled with articles and letters on this question, Professor Neisser's alleged misdemeanours being compared with the above case, and of course unqualified practitioners, homœopaths, and others joined in the general chorus of blame which was raised against the whole medical profession. The chief physician of the Jena Medical Clinic, Professor Stintzing, then declared himself responsible for everything that had happened in this clinic. He said that notwithstanding the malicious suggestions of certain periodicals the facts were that the treatment had been tried for curative purposes, that the patient had been informed of some inconveniences he might experience, that he nevertheless consented to be treated in this way, that he was at liberty to leave the hospital whenever he chose but that he remained there for two months and afterwards returned of his own accord, that the events described by Dr. Strubell happened three years ago, and that the patient (who died in 1899) had up to the time of his death always been grateful to the physicians of the clinic. Professor Stintzing admitted that Dr. Strubell's descriptions might lead his readers to form erroneous opinions, but the charges of inhumanity towards the patients made against the physicians of that clinic were quite unfounded. The respectable periodicals acknowledge the importance of Professor Stintzing's letters, but it is to be feared that Dr. Strubell's case will continue to be the object of severe criticism in some newspapers and at public meetings of that section of the public who are only too glad to have an opportunity of extolling the so-called "popular medicine," homœopathy, and other unorthodox systems.

The Expeditionary Force for China.

Great efforts are being made in order that the troops ordered to China may be provided with a sufficient staff of surgeons and nurses and with an adequate supply of medical stores. Apart from the official organisations afforded by the medical departments of the Army and Navy the German Red Cross Association hastened to join the military authorities in working for the benefit of the wounded soldiers. Trained male attendants and nurses will be sent to the scene of war in China with everything necessary to establish Red Cross hospitals. The direction of the hospitals will be confided to Dr. Küttner of the Tübingen Surgical Clinic, who certainly has become one of the most experienced military surgeons in Europe. Dr. Küttner, who has just returned from Africa, will start at once for China and this will be the third war in which he has served, the previous ones being: (1) that between Turkey and Greece in which he was attached to the great military hospital at Constantinople; and (2) the Transvaal war where he was at the head of the German ambulance with the Boers at Jacobsdaal. A great many surgeons and nurses have applied to the Committee of the Red Cross Association seeking to be enrolled on its staff.

The German Practitioners' Association.

The annual meeting of the German Practitioners' Association (Deutscher Aerztetag) took place on June 22nd and 23rd at Freiburg in Baden, the late president, Dr. Aub of Munich, being replaced in the chair by the vice-president, Professor Löbker of Bochum. The association at present has 291 branches and 16,583 members, and of these 183 branches, including 14,790 members, were represented. The first subject of discussion consisted of questions relative to death certification, and the association adopted a motion of Dr. Becher of Berlin that every case of death ought to be certified by a qualified medical practitioner. The second subject of discussion was the relation of the first-aid and ambulance association to the medical profession. The Practitioners' Association recommended that the first-aid service should be in connexion with the hospitals and that the control should be vested exclusively in medical men. This part of the business was followed by an animated discussion on the conditions under which German medical men carry on practice abroad. Dr. Joachim of Berlin recommended that the association should establish an office for the purpose of giving information to German practitioners intending to go abroad. The assistance of the consular department in this matter had already been asked for by the Berlin branches of the association. One of the Hamburg delegates was of opinion that the office ought to be in that city and that it ought to have control over the appointment of medical officers to merchant vessels both steamers and sailing ships. The association agreed with this proposal. Other subjects of discussion related to fees in club practice, to insurance

companies, to unqualified practitioners, &c. Dr. Löbker of Bochum was elected president.

Hints to Contributors to the Medical Press.

Professor Virchow, the editor of the *Archiv für Pathologische Anatomie*, has addressed some words of counsel to the contributors to that periodical and to medical authors generally, explaining several points which it is desirable that writers for the medical press should always keep in mind. It would be difficult to find a higher authority on this subject than Professor Virchow, the patriarch of the savants and editors of Germany. His remarks are not intended for authors of books, who are at liberty to write as they like; they have been published exclusively for the benefit of contributors to medical weekly, monthly, or quarterly journals. He says that it is one of the elementary principles of journalism that the successive numbers of a journal must be issued at a certain time and in a certain size. Contributors must therefore endeavour to write concisely, taking up as little space as possible and avoiding all superfluous matter. Descriptions of cases, experiments, and necropsies when sent to editors for publication are often so voluminous that it is impossible to use them without serious inconvenience. The publications of series of cases, &c., in the form of tables is a great annoyance both for the editor, the printer, and the readers. Controversies as to priority are often offensive in style and lacking in the courtesy due to professional brethren. Finally, contributors ought to abandon the custom of quoting long passages from other authors with the object only of showing their knowledge of medical literature.

July 23rd.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Sanatorium for Consumptives.

THE first yearly report for 1899 of the Canton of Zürich's Sanatorium for Consumptives offers several points of interest. This sanatorium is situated at Wald at an altitude of 907 metres. The heliograph marked in the four winter months 465 hours of sunshine (Davos 445, Zürich 332). There are 88 beds, of which an average of 72 were continually occupied. 319 patients were admitted and remained an average of 104 days, 36·4 per cent. belonging to the first stage (Dr. Turban's scale), 26·3 to the second stage, and 37·3 to the third stage. Out of 76 patients in the first stage 48 were cured and 22 were eminently better. Of those in the second stage (55) none were cured and 35 were eminently better. Of those in the third stage (78) only 13 were eminently improved. These statistics go far to prove that only cases in the first and also the beginning of the second stage promise good results.

Dr. Tez's Typhoid Extract.

This has been tried at the University Hospital, Zürich, in eight cases, which were all chosen among the worst cases in the first or second week of the disease. After injections they rapidly improved and were free from fever within four days. In one other very severe case which had lasted three weeks and where the temperatures ran up to from 103° to 105° F. continuously the injections of this serum were also crowned with success in seven days, an ensuing relapse being also treated successfully. Professor Eichhorst can thus recommend a trial in all cases severe from the onset or even later. No deleterious effects were observed.

Tuberculin Injections for Diagnostic Purposes.

Though not an advocate of tuberculin injections for therapeutic purposes Professor Eichhorst of Zürich strongly recommends them to secure diagnosis in doubtful cases with pulmonary and other symptoms. The injection of one milligramme of Koch's old tuberculin must be followed by a feverish reaction to secure a positive diagnosis of tuberculosis. Should no reaction follow, three and eventually five milligrammes can be injected at intervals of from two to three days. A case of morbus Addisonii and a case of pseudo-leukæmia were thus diagnosed as based on tuberculosis.

Zürich, July 21st.

RUSSIA.

(FROM A CORRESPONDENT.)

The Outbreaks of Plague in the Kirghiz Steppe.

IN February last I communicated to your columns[1] a short account of an epidemic of plague which had occurred in two Kirghiz settlements in southern Russia. No further details in regard to this isolated outbreak have, I believe, as yet been published. A full account of the epidemic from the pen of an eye-witness is therefore particularly welcome. Such an account is furnished by Dr. Arustamof in the pages of the *Vratch* (1900, No. 15). The article is too long to quote in full, but the following is a short summary of the principal facts which it contains. The scene of the outbreak was the Caspian Sea portion of the Kirghiz steppe in the eastern part of the government of Astrakhan. This steppe extends from about 45° to 50° N. latitude, and from about 47° to 51° east longitude (from Greenwich). It is about 300 versts long and 400 versts broad, and contains approximately 300,000 inhabitants. The greater parts of the steppe is composed of sand, forming irregular mounds and almost devoid of vegetation. To the south the sand gives place to yellow sunken deposits of salt, entirely devoid of vegetation. The Kirghiz inhabitants live a nomad life, in summer in tents, in winter in *zemlianki* or earth huts. On the shore of the Caspian Sea and on the islands near it the population is somewhat denser. It was on one of these islands that plague first made its appearance in October last. On the 25th or 26th of that month the daughter of a *moullah* living on the island of Irsalou-Aral, belonging to the Kirghiz horde, fell ill with symptoms resembling those of plague How she contracted the disease is unknown. The Kirghiz are fanatical Mussulmans and often visit Mecca (where plague, it will be remembered, was present last year), but it seems that they are very loth to give any information to a non-believer as to whether they have or have not been to the Holy Places. Irsalou-Aral (*aral* means a mound) is a small island on the Caspian and it contained at the time of the outbreak a population of 52 persons. On October 25th or 26th, as just stated, the *moullah's* daughter fell ill and she died five days later; on the 26th his son, aged 15 years, fell ill in the steppes, 12 versts away, and died on Nov. 3rd. Other cases followed, and on Nov. 26th the *moullah* himself fell ill but recovered. In all, 25 persons out of the total population of 52 were attacked by the disease and as many as 22 died. In the meantime the infection spread from this island to those of Kishkine-Aral and Kine-Aral, the two islands which were alone mentioned in the accounts of the outbreak first published. They are separated from each other by a strip of water under 100 yards in width, and they lie some 35 versts (or 24 miles) away from Irsalou-Aral. The first case in Kine-Aral, which occurred on Nov. 13th, was that of a woman, the sister of two patients who had died in Irsalou-Aral. It is not definitely stated that the woman had visited her relatives there, but it is to be supposed that some communication between them had taken place. On the same day the woman's son, a boy, aged five years, was attacked, and both died two days later. The disease appeared about the same time in Kishkine-Aral, and in the two islands as many as 39 deaths occurred out of a total population of only 65. Whole families were swept away and the unfortunate survivors became panic-stricken. They were unable, however, either to fly or to get help from the mainland. Just as the outbreak was at its worst a severe storm broke over the northern end of the Caspian Sea; the ice which was beginning to form was broken up, and it was impossible to cross to the mainland either by boat or on foot across the ice. It appears probable that, while this condemned the affected islanders to suffer and die without help, it also prevented the disease from spreading to other islands or to the mainland. It was not until Nov. 28th that news of the outbreak reached the ears of the sole *feldscher* in the neighbourhood—the *feldscher* attached to certain fishing industries—who reported it to the authorities. A medical man reached the scene of the epidemic on Dec. 4th and measures were at once put into action to deal with the outbreak. Later others visited the island and on Dec. 11th the author of the article from which this account of the epidemic is taken himself attempted to cross to the island of Irsalou-Aral.

[1] THE LANCET, Feb. 3rd, 1900, p. 350.

He failed, however, on his first attempt; the ice was as yet too weak to drive over, and on trying to do so the horse and cart fell through into the water, immersing him, with his baggage and supply of drugs which he was taking with him. A second attempt at another part of the ice was equally unsuccessful. On the following day a third attempt was made, but only with the same results—a fresh wetting for himself and all his supplies. On the third day, however, he succeeded in getting across in a boat. At that time 21 out of the small population of the island were already dead and one was still ill. The first 13 bodies had been buried, but eight others remained unburied, the survivors dreading to touch them.

In each of the islands the surviving healthy persons were given a bath in a disinfectant, were clothed in entirely new clothes, and were removed to houses or tents where no case of the disease had yet occurred. The infected huts or tents with their contents and with the unburied bodies of those who had died were burned down. A cordon of mounted Kirghiz was drawn round the infected settlements. These measures seem to have succeeded, or at least to have aided in checking the course of the epidemic. The outbreaks, in fact, practically ceased in all the islands from the time that these measures were put into force. The other conditions were practically favourable at the time for the extinction of an epidemic. The extreme isolation of the communities affected, the smallness of their numbers, and the onset of extremely cold weather were all, no doubt, conducive to the cessation of the further spread of a disease such as plague. But there can be little doubt that the measures above briefly enumerated were mainly instrumental in stopping the ravages of the disease. On Dec. 16th the outbreaks were completely over. The survivors were housed in uninfected huts. All inside the contaminated zone, including medical men, feldschers, police officials, and others, were provided with new clothes, and their old ones were burnt or disinfected. A number of surrounding villages, over a large area, and containing a population of over 10,000 persons, were examined for traces of any suspicious disease, and later the islands were visited by Professor Levin, Professor Raptchevski, and Professor Vinogradof on behalf of the Russian Plague Commission, from whom a report should be forthcoming shortly. Although no bacteriological evidence of the nature of the disease in these outbreaks has as yet been published there seems no reason to doubt that it was the plague. The symptoms were principally those of fever, headache, vomiting, extreme prostration, spitting of blood, and death in two or three days. None of the patients seem to have presented buboes, and it is reasonable to suppose that the outbreak was one of plague in its pneumonic form. In this respect, as well as in regard to its local intensity and fatality, the outbreaks are closely analogous to that which occurred at Kolobovka on the Lower Volga in the summer of 1899. In that, as in the outbreaks now under consideration, no trace of the source of the infection could be discovered.

July 23rd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

A Bureau of Public Health for the Dominion.

DR. RODDICK, M.P., is taking an active interest in the direction of having established a central board of health for the entire Dominion. Speaking on the subject recently in the Canadian House of Commons he pointed out the importance of concentrating all subjects relating to sanitary affairs, marine quarantine, the sanitation of Indian reserves, leper asylums, vital statistics, the sanitary portion of the census, the protection of waterways, sanitary measures in unorganised territories, the protection of public health against the invasion of tuberculosis, and the importation of unhealthy articles of food and freight, such as rags. The question of sanitary police he thought a particularly important one at the present time. The Dominion authorities should have such men now on the shores of British Columbia to guard against the introduction of that loathsome disease, the bubonic plague. Besides, they had need of a bacteriological laboratory, for at present they had to depend upon the United States, England, and even sometimes upon Japan. He thought they should have in their own country a laboratory under the charge of a capable man, in which should be carried on the manufacture of prophylactic serums of various kinds. Recently he had attended a medical convention in the United States where a professional gentleman had read a paper on leprosy who stated that it was his purpose to proceed to Ottawa to make a study of the subject in the laboratory there. Dr. Roddick had to inform him that such an institution did not exist. Canada was a long way behind in this respect and he thought the Government might well look carefully into the matter during recess, which the Minister of Agriculture promised to do, so that very likely there will be a report to deal with at the next assembling of the House. The Government also should have medical men in the great ports of Europe and the Orient who should carefully examine intending emigrants and see that the ships are properly equipped for the sanitary care of those on board. The formation of a Dominion Medical Council, Dr. Roddick believes, will go much toward securing the creation of a department of public health in the Government of the country.

The Extent of Leprosy in Canada.

The Hon. the Minister of Agriculture in the Dominion Parliament, in answer to questions regarding the extent of leprosy in the Dominion, stated recently in the House of Commons that there were 19 lepers in the lazaretto at Tracadie, New Brunswick, 14 being from that province, one from Prince Edward Island, three from Manitoba (the disease having been contracted by these in Iceland), and one from the province of Nova Scotia. One of the Manitoba cases had died in January, 1897, and another in July of the same year. The Minister also stated that he had been informed early in the autumn of 1897 that there were six lepers in the lazaretto on Darcy Island, British Columbia, all of whom were Chinese. Since that year these have not been under the control of the Dominion Government but are in the immediate hands of the Government of the province of British Columbia.

Tinea Favosa Quarantine.

In view of the fact that the quarantine officers of New York and other ocean ports along the Atlantic seaboard are excluding from landing immigrants the subjects of this disease it becomes of some importance to the people of Canada, more particularly those down by the sea in the maritime provinces of Nova Scotia and New Brunswick. Last spring it was stated that several of the rejected ones had found shelter in these provinces and on Cape Breton Island, but although a diligent and persistent search was prosecuted they could not be located. This disease is not as yet considered by the immigration authorities of Canada as a sufficient cause for exclusion or even quarantine; but the recent action of the United States Government, combined with the fact of the continual growth of St. John, N.B., as a port of entry for transatlantic passengers, makes favus one of interest to the profession as well as to the general public in that locality, which is bound to result in similar efforts being put forth to exclude the introduction of these diseased hordes into Canada. The disease seems to be very prevalent in New York and it is from this source when rejected and excluded that New Brunswick and Nova Scotia fear its introduction. Here and there a few isolated cases have been reported in Canada, one particularly interesting case having occurred in the Montreal General Hospital in which nearly the whole cutaneous system was involved.

The Ontario Medical Association.

The twentieth annual meeting of this association was held in Toronto on June 6th and 7th, under the presidency of Dr. Adam H. Wright of this city, Dr. Harold C. Parsons acting as secretary.—The first discussion was an interesting one upon the Use of Morphia in Puerperal Eclampsia, some adhering to and endorsing this method whilst others had found the bromide-chloral treatment superior and more effective.—Dr. Luke Teskey, Professor of Clinical Surgery in Trinity Medical College, read a valuable paper on Appendicitis. He classified this disease into three forms: catarrhal appendicitis, acute circumscribed appendicitis, and gangrenous appendicitis. He laid particular stress upon the chronic symptoms of indigestion and the progressive loss of body-weight in the first class of cases; he counselled operation in all these cases and thought that the recoveries ought to be 100 per cent. In the second class an important diagnostic point was the feeling of resistance which one always finds in local inflammatory processes; when that resistance was first felt that was the time for operation. In the third class an early operation

was the only hope for the patient.—Inter-provincial Medical Registration was a live topic for discussion. Dr. Roddick was present and addressed the meeting at some length on this subject. In his hands is intrusted the Bill to bring this question into practical effect. The meeting unanimously approved of the formation of a Dominion Medical Council.—Two Cases of the Total Removal of the Vas Deferens and Vesiculæ Seminales were reported, one by Dr. George A. Peters of the University of Toronto and the other by Dr. J. Alexander Hutchinson of the University of McGill.—Dr. Peters further gave a very interesting report of a case of Transplantation of the Ureters in the Rectum by Extra-peritoneal Method, for which he claims priority and originality. The little patient is now six years of age and can hold his urine in the rectum at night for eight hours and in the daytime for three hours. The boy had also been the subject of a procidentia recti which had been corrected.—The Adaptation of Patient to Climate in Cases of Phthisis was the subject of an interesting address by Dr. N. A. Powell of Toronto, who pointed out the advantages of the Muskoka region and the North West and Rocky Mountain regions for the subjects of this trouble.—Professor William Oldright of Toronto University showed an interesting case of Necrosis of the Skull in an old syphilitic, aged 56 years. It measured five inches either way in extent.—Numerous cases of Cancer of the Rectum were reported by Dr. E. E. King of Toronto, the illustrations by lantern slides adding greatly to the effect of the reports.—Observations upon Blood-pressure in Dogs were shown by means of lantern slides by Dr. R. D. Rudolf of Toronto.—Dr. H. B. Anderson, Professor of Pathology in Trinity Medical College, read a paper on Acute Rheumatism and reported finding Achlame's bacillus in one case, the patient having died one week after being attacked. He thought the work of this investigator had not met with sufficient approval in England and America.—The subject of the Army Medical Arrangements for the War in South Africa was ably handled by Dr. J. T. Fotheringham and proved a very interesting feature of the meeting.—Dr. Angus Mackinnon, Guelph, Ontario, was elected President, and Dr. Parsons was re-elected secretary.

Toronto, July 7th.

Medical News.

UNIVERSITY OF LONDON.—At the intermediate examination in Medicine held in July the following candidates passed in the subjects indicated:—

EXAMINATION FOR HONOURS.

Anatomy.—First-class: Joseph Ebenezer Adams, St. Thomas's Hospital; M. A. M. Fitzmaurice-Kelly, St. Mary's Hospital; Charles Wesley Forsyth, Owens College; Harold Ashton Lyth (exhibition and gold medal), University College; Robert Pugh Rowlands (gold medal), Guy's Hospital; and Arthur Rendle Short, B.Sc., University College, Bristol. Third-class: Arthur Hamilton, St. Bartholomew's Hospital; Constance Brodribb Slater, London School of Medicine and Royal Free Hospital; and John Harry Watson, University College, Liverpool, and King's College.

Physiology and Histology.—First-class: Percy Reginald Bolus (gold medal) and Edwin Henry Britton Milsom, Guy's Hospital; and Arthur Rendle Short, B.Sc. (exhibition and gold medal), University College, Bristol. Second-class: Helen Chambers, London School of Medicine and Royal Free Hospital; Herbert Ernest Corbin, B.Sc., and M. A. M. Fitzmaurice-Kelly, St. Mary's Hospital; Ellis Gordon Goldie, Guy's Hospital; Harold Ashton Lyth, University College; and Constance Brodribb Slater, London School of Medicine and Royal Free Hospital. Third-class: D. Henriques De Souza, B.Sc., University College; Henry Ratcliff Kidner, St. Bartholomew's Hospital; Charles Ernest W. Lyth, University College, Sheffield; and Neville Ivens Spriggs, Guy's Hospital.

Organic Chemistry.—First-class: Herbert Ernest Corbin, B.Sc., (exhibition and gold medal), St. Mary's Hospital; and *Millais Culpin, London Hospital.† Third-class: Percy Reginald Bolus and Edwin Henry Britton Milsom, Guy's Hospital.

Materia Medica and Pharmaceutical Chemistry.—First-class: Robert Pugh Rowland, Guy's Hospital; Arthur Rendle Short, B.Sc. (exhibition and gold medal), University College, Bristol; and †Constance Brodribb Slater, London School of Medicine and Royal Free Hospital. Second-class: Thomas Paul Baldwin, St. Bartholomew's Hospital; Henry Swarbrick Brown, Guy's Hospital; M. A. M. Fitzmaurice-Kelly, St. Mary's Hospital; and Christian Cathcart Robinson, St. Bartholomew's Hospital. Third-class: Stanley Bean Atkinson, B.Sc., St. Bartholomew's Hospital; Herbert Ernest Corbin, St. Mary's Hospital; and David Henriques De Souza, University College.

* Obtained number of marks qualifying for the exhibition.
† Obtained number of marks qualifying for the medal.

PASS LIST.

Entire Examination.

First Division.—John Braithwaite, Guy's Hospital; William Alfred Brend, B.Sc., King's College; George Herbert Brown, Owens College; Harold Benjamin Day and John Alexander Drake, King's College; Harold Cruickshank Lees, St. Mary's Hospital; Agnes Agatha Parson, London School of Medicine for Women; Rees Phillips, Middlesex Hospital; and David Lindley Sewell, Owens College.

Second Division.—Joseph Baird Albury, St. Mary's Hospital; Frederick Hugh Alexander, University College; Oliver Francis Haynes Atkey, King's College; George Ernest Aubrey, St. Bartholomew's Hospital; Anne Thompson Barnard, London School of Medicine and Birkbeck Institution; Mary Cecilia Bell and Ruth Levy Bensusan, London School of Medicine for Women; George Archibald Bosson, University College; William Frederick Box, Guy's Hospital; Sidney Arthur Boyd, Charing-cross Hospital; Walter Briggs, Owens College; Agnes Maud Brown, Queen Margaret College, Glasgow, and London School of Medicine; Gerald Lantabery Bunting, Westminster Hospital and Birkbeck Institution; Joseph Burfield, St. Bartholomew's Hospital; John Hay Burgess, St. Mary's Hospital; Harold John De Brent, St. Thomas's Hospital; Henry De Vine, University College, Bristol; John Thomas D'Ewart, Owens College; Albert Davies Edwards, University College, Cardiff; Francis William Fawssett, Guy's Hospital; Arthur Frost Forster, St. Bartholomew's Hospital; John Gay French, St. Mary's Hospital; William Gillitt, Middlesex Hospital; Llewellyn Stanley H. Glanville and Philip William Hamond, Guy's Hospital; Thomas Henry Harker, St. Bartholomew's Hospital; Elizabeth Hill, London School of Medicine for Women; Ethel Florence Iredell, B.A., London School of Medicine and Royal Free Hospital; Smeeton Johnson, St. Mary's Hospital; Ivor Davenport Jones, Middlesex Hospital; William Ronald Kirkness, King's College; Reginald Larkin, Guy's Hospital; Alfred Lewthwaite and George Bartley McKean, University College; Lionel Henry Moiser, Guy's Hospital; Gilbert Phillips Mosscrop, London Hospital and Alwyne Institution; Arthur Cyril Motta, St. Mary's Hospital; Frederick Cecil Robinson, Guy's Hospital; Dansey Smith, Middlesex Hospital; Mary Townsend, London School of Medicine for Women; Laura Sobey Veale and Edith Waine Turner Watts, London School of Medicine and Royal Free Hospital; Bernard Harry Wedd, Guy's Hospital; Eugene Christopher Whitehead, Westminster Hospital; and Hilda Kate Whittingham and Ivy Evelyn Woodward, London School of Medicine for Women.

Excluding Physiology.

First Division.—George Cuthbert Adeney, St. Thomas's Hospital; and Charles Derwent Pye-Smith and Ernest William Strange, Guy's Hospital.

Second Division.—Ernest William Charles Bradfield, St. Mary's Hospital; Desborough Brodie, St. George's Hospital; George Brooke Forbes Churchill, Guy's Hospital; Ruby Ellen Glanville, London School of Medicine for Women; Herbert Myer Goldstein, Guy's Hospital; Ida Margaret Guillaume, London School of Medicine for Women; Vernon Hetherington, St. George's Hospital; Beatrice Mary Kidd, London School of Medicine and Alwyne Institution; Alexander Manuel, St. George's Hospital; Wilfrid Ombler Meek, Owens College; Henry Richmond Minkley, St. Mary's Hospital; John Noel Sergeant, St. Thomas's Hospital; Herbert Bartlett Simpson and Malcolm William Stewart Smith, University College; James Batson Stephens, St. Mary's Hospital; R. Archibald Slater Sunderland, St. Bartholomew's Hospital; Louisa Graham Thacker and Henrietta Lelia D. Williams, London School of Medicine for Women; Agnes Williamson, London School of Medicine and Royal Free Hospital; Frederick Robert Illiston Wright, St. Thomas's Hospital; and Walter Perceval Yetts, St. Bartholomew's Hospital and University of Edinburgh.

Physiology only.

Second Division.—Henry Edgar Barnes, St. Mary's Hospital; Frederick Alexander Beattie, Guy's Hospital; Alwyn Hewett Bradley, Mason University College; John Dell Bridger, Guy's Hospital and Alwyne Institution; Alexander Cameron, Middlesex Hospital; Daniel Cyril Evans, St. Bartholomew's Hospital; John Evans, Guy's Hospital; John William Fox, London Hospital; David Sydney Graves, Guy's Hospital; Helen Moore, London School of Medicine and King's College; Marie Louise Pethick, London School of Medicine and Royal Free Hospital; George Struan Robertson, Guy's Hospital; and Arthur Reginald Schofield and William Bartholomew Vaile, London Hospital.

N.B.—The foregoing lists, published for the convenience of candidates, are provisional only, and are not final until the reports of the examiners shall have been confirmed by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—In July the following candidates passed in the subjects indicated:—

Surgery.—H. C. Cooper, St. George's Hospital; H. S. Davies (Section II.), Michigan; C. J. E. Edmunds (Section I.), St. Thomas's Hospital; E. Evans (Sections I. and II.), Royal Free Hospital; J. S. Goodall (Sections I. and II.), Middlesex Hospital; T. B. Haig (Section II.), St. Bartholomew's Hospital; S. K. K. Haslam (Section I.), Royal Free Hospital; H. N. Horton (Section I.), Middlesex Hospital; J. Klein (Sections I. and II.), St. Mary's Hospital; R. Lamort, Bordeaux; R. A. Lyster, Birmingham; C. J. Marsh, University College Hospital; W. T. Meagher, Cork; R. E. Roberts (Sections I. and II.), St. Thomas's Hospital; F. Robinson (Sections I. and II.), Royal Free Hospital; E. F. Rose (Sections I. and II.), St. Bartholomew's Hospital; W. C. Stanham, London Hospital; M. H. Style (Sections I. and II.), Royal Free Hospital; C. H. St. M. W. Toke, St. George's Hospital; and E. Tyson, St. Bartholomew's Hospital.

Medicine.—P. J. R. Bucknill (Section I.), Manchester; F. P. Bush and C. W. Gibson, Guy's Hospital; J. S. Goodall (Section II.), Middlesex Hospital; T. B. Haig (Sections I. and II.), St. Bartholomew's Hospital; S. K. K. Haslam (Section I.) and D. E. Lockwood (Section I.), Royal Free Hospital; R. E. Roberts (Sections I. and II.), St. Thomas's Hospital; F. Robinson (Sections I. and II.), Royal Free Hospital; J. Waters (Sections I. and II.), Middlesex Hospital; A. J. Watson (Section I.), St. Mary's Hospital; and H. F. Willington, Manchester.

Forensic Medicine.—F. P. Bush and C. W. Gibson, Guy's Hospital; T. B. Haig, St. Bartholomew's Hospital; R. E. Roberts, St. Thomas's Hospital; F. Robinson, Royal Free Hospital; J. Waters, Middlesex Hospital; and A. J. Watson, St. Mary's Hospital.

Midwifery.—C. H. G. Atkyns, Birmingham; R. V. Cowley, Edinburgh and St. Mary's Hospital; A. McC. Dallas, Guy's Hospital; and H. F. Willington, Manchester.

The diploma of the Society was granted to the following candidates entitling them to practise Medicine, Surgery, and Midwifery:—F. P. Bush, H. C. Cooper, A. McC. Dallas, H. S. A. Davies, E. Evans, J. S. Goodall, T. B. Haig, J. Klein, R. A. Lyster, W. T. Meagher, W. C. Stanham, M. H. Style, C. H. St. M. W. Toke, and E. Tyson.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred:—

Degree of Doctor of Medicine (M.D.).—Charles George Cowie, M.A., M.B., C.M., Ellon; William Stewart Geddie, M.B., C.M., Gympie, Queensland, Australia; Alexander Barclay Lyon, M.B., C.M., Hammersmith, London, W.; and Alex. Hendry Mackie,* M.A., M.B., C.M., Aberdeen.

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) (Old Ordinances).—Alfred Alwyne Hingston, B.A., Clifton, Yorks.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch. B.) (New Ordinances).—Alexander Bisset, Aberdeen; William Fraser Bisset, Aberdeen; Allan James Craigen, Georgetown, Demerara; William Flett Croll, M.A., Aberdeen; Arthur Davidson, Dunnydeer, Insch, Aberdeenshire; James Andrew Sandilands Grant, M.A., Methlick, Aberdeenshire; Herbert Johnstone, Upholland, near Wigan; James Macfarlane, Aberdeen; Miss Myra Mackenzie, Aberdeen; Colin Forbes Marr, Ellon, Aberdeenshire; Herbert Playford Sheppard, Bedford; Henry William Martyn Strover, Tonbridge, Kent; Francis Henry Wessels, B.A., Claremont, near Cape Town, South Africa; James Wilson, Gardenstown, Banffshire; and Charles Melville Young, Highgate, London.

The John Murray Medal and Scholarship (awarded to the most distinguished graduate (M.B.) of 1900) and the Alexander Anderson Scholarship were awarded to Henry Fraser, M.B., Ch.B., Aberdeen.

Degree of Bachelor of Science (B.Sc.).—Charles Allan, Burnside, Fordyce; Robert Neal Rudmose Brown, Aberdeen; George Gall Esslemont, Ord of Cardno, Fraserburgh; Joseph Knox, Aberdeen (with special distinction in geology and chemistry); Alexander Christie Reid, M.A., Ellon; and John Wishart, Aberdeen.

Diploma in Public Health.—David Hunter Aiolsie, M.B. Aberd., Mintlaw; Alexander Vass Anderson, M.B. Aberd., Stonehaven; Thomas Fraser,† M.A., M.B. Aberd., Aberdeen; Norman James Sinclair, M.B. Aberd., Aberdeen; and David Sivewright, M.A., M.B. Aberd., Strichen.

* Thesis considered worthy of commendation.
† With "credit."

KING'S COLLEGE, LONDON.—In the Faculty of Medicine the following scholarships and prizes have been awarded:—Sambrooke Exhibitions, Eardley Lancelot Holland, Thomas Henry Jones, and John James; Medical Entrance Scholarship, A. J. Wigmore; Warneford Scholarships, John Alexander Drake and Matthew Robert Cecil MacWatters; Senior Scholarship, Arthur Edmunds; Second Year Scholarship, Harold Benjamin Day; Junior Scholarships, Thomas Henry Jones and Eardley Lancelot Holland; Rabbeth Scholarship, Frederick Champ McCombie; Leathes Prize, Harold Balme and Colin James Galbraith; Warneford First Prize, Harold Balme; Warneford Second Prize, Edward Augustine Bell; Barry (Divinity), Arthur Donald Griffith; Tanner Prize, Edgar Winn Fox Dolman; Todd Prize, Arthur Edmunds; Hygiene Prize, James Duncan Clay; Pathological Anatomy Prize, Alfred Hocart Brehaut; Obstetric Medicine Prize, Archibald Douglas Reid; Forensic Medicine Prize, Archibald Douglas Reid; Medicine Prize, Archibald Douglas Reid; Surgery Prize, Frederick Charles Carle; Professor Rose's Surgery Prize, Hubert Liston Willcox; Anatomy Prize, Albert Angelo Myers; Physiology Prize, Albert Angelo Myers; Chemistry Prize, Albert Angelo Myers; and Materia Medica Prize, Albert Angelo Myers.

ST. GEORGE'S HOSPITAL.—Mr. H. H. Macpherson presided at a quarterly general court of the governors of St. George's Hospital in the board-room on July 13th, when Mr. T. Holmes, the treasurer, moved that the weekly board should be empowered to sell stock to the amount of £4000. He said that unless some large donations or legacies were received this step would be necessary in order to finish the work which was now under contract. If the motion were carried the weekly board would only exercise the power in case of necessity. There was a deficiency on the last year's expenditure, normal and extraordinary, of £15,000, the subscription list and the legacies both having been small.—Sir Henry Burdett, in seconding the motion, said that as a visitor he knew the need for the expenditure of £100,000 which had been incurred on reconstruction works. The present was an age of criticism and a political crisis had almost arisen out of hospital affairs in South Africa. He was not in this country when the criticism appeared or he would have felt himself called upon to point out that without special knowledge of the exact circumstances in South Africa that criticism was too narrow to warrant the amount of public attention which it had received. It was the first essential of criticism of hospital affairs that those who undertook it should have an accurate practical knowledge of the circumstances and matters of which they treated. It had been made a matter of complaint against St. George's Hospital that the expenditure was too great, and it had been suggested that if the present policy were continued and extended to other hospitals the time would soon arrive when the voluntary hospitals must be taken over by the State. That was exactly the opposite of the truth. What St. George's Hospital still suffered from was a margin of deficiency between income and expenditure which existed 10 years ago and which had never been wiped out. A great hospital like St. George's must advance with the age. Its sanitary conditions were now perfect, its means of isolating infectious cases were second to those of no other hospital in London, and the accommodation for the staff was a credit to the metropolis. He pleaded for a special effort on behalf of the institution. The hospital had never had a festival dinner, and he thought that if they were to ask for the assistance of a member of the Royal family who would place himself at their head in bringing to the knowledge of London generally, and especially of the inhabitants of that district, the need which existed for an extra £10,000 a year, they would not only get it, but they would get the £100,000, which they had so wisely expended upon buildings, restored to their reserve fund.

HOSPITAL ENDOWED BED.—The late Mr. Augustus Matthew Goddard bequeathed to St. Thomas's Hospital a legacy of £1000 to endow a bed, to be named the "Matthew and Patience Goddard Bed."

VACCINATION GRANT.—Mr. C. J. Perrott, public vaccinator for the Kingswood division of the Keynsham Union, has been awarded a grant for successful vaccination.

THE CRISIS IN CHINA.—Mr. George F. Stooke, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., stationed at I-chang, in the service of the Foreign Mission of the Church of Scotland, was reported safe on July 19th.

DR. AND MRS. J. PRIOR PURVIS, who were married at St. Pancras Church, Euston-road, on June 24th, 1840, celebrated the sixtieth anniversary of their wedding on June 24th last. A reception was held at Lansdowne-place, Blackheath-hill, when some 150 of the leading residents of the district were present to offer their congratulations. The family circle numbered 35, consisting of children, grandchildren, and a great-grandchild.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, MARYLEBONE-ROAD, N.W.—A meeting of governors and friends of Queen Charlotte's Hospital was held on July 20th at 22, Portman-square, when Viscount Portman (the President) presided. The Duke of Cambridge attended and the following amongst others were also present: Colonel FitzGeorge, Lord Hugh Cecil, the Earl of Hardwicke, Canon Duckworth, Lady Farquhar, Sir Edward Hertslet, Mr. and Mrs. F. W. Hunt, Mrs. Charles Inge, Mrs. Beauchamp, Colonel Gordon Watson, Mr. G. N. Taylor, General Lowry, Mrs. Hodgkinson, Mrs. Warde, Mr. and Mrs. H. A. Harben, Mr. H. J. Royds, Major McMahon, Miss Denison, Mrs. Ernest Waggett, Mr. and Mrs. Robert English, Mr. and Mrs. F. Herbert Davies, Mr. J. Dix Lewis, Mr. F. G. Cavendish Bentinck, Mrs. Fenwick B. Barron, Mrs. Anstey, Canon Barker, Rev. G. F. Forbes, Mrs. W. M. Beaufort, Mrs. Benjamin Taylor, Miss Alice Cox, Mrs. Newby, and the Rev. V. G. Borradaile. A report was presented showing that the enlargement of the hospital, which was commenced in 1897, had been completed, but that there were still some improvements required to the building, which it was estimated would cost about £2000. The Earl of Hardwicke (chairman of the Committee of Management) stated that in addition to the £2000 which were needed to accomplish the renovation of the hospital the increased expenditure for maintenance caused by the enlargement of the hospital and enhanced prices would amount to about £1000 per annum.—The Duke of Cambridge brought forward the following motion—

> That this meeting desires to express its warm approval of the success which has attended the efforts made by the committee to provide increased and improved accommodation for the growing number of patients seeking the aid of the charity and cordially endorses the appeal for additional support to enable the committee to carry out the further work necessary for the complete renovation of the hospital—

and referred to the long connexion of his family with the institution. He expressed his pleasure at hearing that the hospital had opened its doors to the wives of soldiers and

sailors and reservists now at the front, 68 of whom had been granted admission as in-patients and 24 had been treated as out-patients.—Lord Hugh Cecil, M.P., seconded the motion. He dwelt on the great work which was done in the training school of the hospital in training medical students, midwives, and monthly nurses, which benefited all classes of the community.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

General Laurie and the Medical Act of 1858.

IN accordance with his notice General LAURIE introduced into the House of Commons on Friday, July 20th, his Bill for the extension of the provisions of the Medical Act of 1858 so as to entitle to registration the holders of certain colonial diplomas. The measure is backed by General Laurie himself, Mr. Rothschild, Sir Mancherjee Bhownaggree, Colonel Wyndham Murray, Mr. Middlemore, and Sir James Fergusson. Without going into the merits of the question it is safe to say that in the present state of Parliamentary business there is not the slightest chance of the Bill being passed.

Proposed Labour Licences for School Children.

The question of children of school age engaging in labour calculated to interfere with their education was discussed last week before the Grand Committee of the House of Commons on Law in connexion with the Elementary Education Bill. Mr. GEOFFREY DRAGE proposed to insert in the Bill a new clause for the establishment of a system of licensing under which the local authority would, on being satisfied on certain points, issue a licence to a child to labour and it would become an offence for an employer to engage an unlicensed child and for a parent or guardian to allow the child to be engaged. Sir JOHN GORST, the Minister in charge of the Bill, did not accept the proposed clause, but he announced that the Education Department are prepared to join with the Home Office in the appointment of a departmental committee to inquire into the whole question and frame legislation for introduction during the next session of Parliament.

HOUSE OF COMMONS.

THURSDAY, JULY 19TH.

Invalided from South Africa.

Mr. MACNEILL asked the Under-Secretary for War how many officers, non-commissioned officers, and men had been invalided from South Africa since the outbreak of the war; of these, how many had died on the passage home or in military hospitals or in their own homes, and how many had been incapacitated from further service by wounds or disease.—Mr. WYNDHAM replied: 20,658 have been invalided home; of these 63 died on the passage and 60 in military hospitals; there is no record of any having died in their own homes; 430 have been incapacitated from further service by wounds and disease.

Cholera in India.

Mr. SCOTT asked the Secretary of State for India whether, in view of the outbreak of cholera in the famine districts of India, any, and if so what, addition had been made to the famine medical service, and whether he could state the number of deaths from cholera in the famine districts.—Lord GEORGE HAMILTON replied: I am not able to state the number of additional medical officers and medical subordinates sent to the famine districts in consequence of the outbreak of cholera. I was informed that as regards the worst cholera tract in the middle of June the local authorities there had received as much extra medical help as they thought necessary. The returns which have reached me show that during the month of June the telegrams state that 22,198 cholera deaths were reported from British famine districts and there were 19,122 from native States similarly afflicted. During the three weeks ended on July 7th the reported cholera deaths averaged 6562 a week for British famine districts and 6185 a week for native States affected by famine.

FRIDAY, JULY 20TH.

The Medical Service in India.

Mr. SCOTT asked the Secretary of State for India whether the services of more than one medical man had been available at most of the large famine camps, containing from 20,000 to 30,000 people, at any time during the famine or since the outbreak of cholera.—Lord GEORGE HAMILTON replied: I have not received details as to the individual distribution of medical officers and medical subordinates at the different relief camps and relief houses. The famine codes contain full instructions for strengthening the medical staff in famine districts, for provision of hospital accommodation on relief works, for posting a medical officer or a subordinate qualified for independent charge to each hospital, and for the duties of such medical officers. The instructions as to engaging additional medical officers and subordinates from outside the regular service when need arises are full and clear.

Civil Surgeons in South Africa.

Dr. FARQUHARSON asked the Under-Secretary for War whether it was a fact, as stated by Mr. Burdett-Coutts in a letter to the newspapers, that civil surgeons employed in military hospitals in South Africa had been required by the Army Medical Department to sign a contract not to divulge in any way what their impressions might be on hospital matters?—Mr. WYNDHAM replied: Civil surgeons have to sign a contract, not being entitled to emoluments under the pay warrant or amenable to discipline under the Army Act. They have to sign a contract accepting the terms offered to them and the obligations of discipline, subject to the forfeiture of these terms. I have in my hand a copy of the contract. The only paragraphs that bear upon discipline are as follows: "During the said period I will devote my whole time and professional skill to my service hereunder, and will obey all orders given to me by commissioned military or naval officers or by the permanent medical officers of either of those services." And the next paragraph runs: "In case I shall complete my service hereunder to your satisfaction in all respects, I shall receive at the end of the said period a gratuity of two months' full pay at the rate hereinbefore specified, but in case I shall in any manner misconduct myself, or shall be (otherwise than through illness or unavoidable accident) unfit in any respect for service hereunder, of which misconduct or unfitness you shall be sole judge, you shall be at liberty from and immediately after such misconduct or unfitness to discharge me from further service hereunder, and thereupon all pay and allowances hereunder shall cease, and I shall not be entitled to any free passage home or gratuity." That is the only contract civil surgeons have to sign, and for my part I cannot see that it offers any support for the statement in question.—Mr. BURDETT-COUTTS said he desired to ask a question which, he thought, would contain a correction of detail and which added very largely to the force and significance of the statement referred to. He should like to ask whether it was not the case that when some letters had been published from doctors in South African hospitals they had to sign a statement to the effect that they were not to communicate their impressions of hospital matters to the public or that they were to take the consequences.—Mr. WYNDHAM: I have no knowledge of any such fact. That is the only contract we have made with civil surgeons and I am not aware of any other.—Sir HENRY CAMPBELL-BANNERMAN: Would it not be desirable to have some inquiry as to whether this declaration was ever enforced in South Africa? Telegraphic communication could soon be made.—Mr. WYNDHAM: There is no objection whatever.

MONDAY, JULY 23RD.

Anti-Typhoid Inoculation in South Africa.

Colonel WYNDHAM MURRAY asked the First Lord of the Treasury whether the instructions to the Commission of Inquiry into the Medical Arrangements in South Africa would include the making of a thorough inquiry on the spot by the medical members of the commission into the results of inoculation for typhoid fever in preventing the disease or lessening its effects.—Mr. BALFOUR replied: The inquiry to which my hon. and gallant friend refers, though doubtless one of very great importance, appears to me to be outside the scope of the reference to the commission, and probably it would require a commission of somewhat different constitution to investigate a purely scientific medical subject of the kind suggested.

Hospital Accommodation for China.

Mr. HEDDERWICK asked the Government what had been done to provide for the proper care of the British wounded at Tientsin and Taku; and whether there was any hospital accommodation at Wei-Hai-Wei.—Lord G. HAMILTON replied: Her Majesty's Government have no special information as to the arrangements made at the front for the wounded in the recent engagements, but there were available the medical staffs of the various British men-of-war under Admiral Seymour, and General Dorward took with him other medical officers and appliances. As regards hospital accommodation at Wei-Hai-Wei there is a good hospital on the island and good stone barracks convertible to hospital use if wanted. General Gaselee has telegraphed that as soon as he reaches Wei-Hai-Wei he will report on its suitability for the location of base hospitals. The water-supply on the island is good and ample. To this I have to add that the Government of India have already provided a hospital ship and are prepared to supplement this accommodation by converting three transports into hospital ships. The American hospital ship *Maine* has also been placed at the disposal of her Majesty's Government, and I am glad to take this opportunity of expressing our gratitude for this great act of generosity to the Atlantic Transport Company which has furnished the ship and to the American ladies who have provided the funds for equipping and maintaining it. I have also to inform the House that I have received from the Maharajah Sindhia of Gwallor the offer of a fully-equipped hospital ship for China, upon which he is willing to spend 20 lakhs. This princely offer is made on behalf of himself, his mother, and his wife, to testify their loyalty to her Majesty the Queen-Empress. Her Majesty's Government have expressed their acceptance of this most munificent offer and their deep appreciation of the motives which actuated his Highness to make it.

TUESDAY, JULY 24TH.

Results of Anti-Typhoid Inoculation.

Mr. CHANNING asked the Under Secretary of State for War whether he was aware that the Director-General of the Army Medical Department, at the Indian Medical Service dinner on June 14th, stated that the results of inoculation for typhoid fever, while it afforded some protection against contracting the disease, rather increased the risk of death when contracted, but that this only applied to the men, as both the incidence and case mortality among officers appeared to be increased by inoculation; and whether the recent statistics of Professor Wright of Netley, which show that both attacks and deaths from typhoid fever were seven times less in the inoculated than in the uninoculated, applied equally to officers and men separately.—Mr. WYNDHAM replied: I have no knowledge of the statement attributed to the Director-General of the Army Medical Department, and, as I have already explained to the House on more than one occasion, the statistics at present available are not sufficient to enable me to give a satisfactory reply to the question.

Medical and Nursing Staff in the Orange River Colony.

Dr. TANNER asked the Under Secretary of State for War if he had any official information showing that, in consequence of the arrangements, out of 24 nurses employed in the Orange River Colony 14 had succumbed; and, whether 100 more doctors and 200 nurses were now required and stores stacked at base were to be sent up to the front.—Mr. WYNDHAM replied: Eight nurses have died in South Africa. Lord

Roberts has quite recently asked for 20 more surgeons and 50 nurses. These are being sent. It is usual for stores to be stacked at the base and sent up as required.

A Cow with a Tuberculous Udder.

Mr. FIELD asked the President of the Local Government Board (1) whether he was aware that at a recent meeting of the Northwich Rural Council a communication was received from the county medical officer of health. Dr. Vacher, stating that he was informed by the medical officer of health for Manchester that a cow with a tuberculous udder had been found on a farm in West Cheshire; that Dr. Niven wrote to Dr. Vacher advising to isolate the infected cow, to dry her at once, and have her fed for slaughter; (2) whether the Local Government Board had sanctioned such a system; and (3) whether he was aware that Dr. Vacher, in conjunction with the late Inspector Wagstaffe, inaugurated and carried out a series of tuberculous prosecutions in Birkenhead.—Mr. CHAPLIN: The facts appear to be substantially as stated in the first paragraph. The cow, however, was not sold but was destroyed by the farmer. The answer to the second paragraph is in the negative. Dr. Vacher, before becoming county medical officer was medical officer of health for Birkenhead, and I am informed that during this period the Birkenhead Town Council, as advised by him, arranged for a much more thorough inspection of meat intended for the food of man than had previously been attempted and appointed Mr. Wagstaffe to give his whole time to the work. Dr. Vacher, however, appears to have had nothing to do with the present case except to inform the Northwich Rural District Council of the communication which he had received from Dr. Niven.

Medical Practice and Company Law.

At this sitting the House took the report stage of the Companies Bill, and at the commencement of the proceedings it was decided to strike out of the Bill Clause 2 applying the Pharmacy Act to companies carrying on business as chemists and druggists and Clause 3 declaring that it shall not be lawful for a company to carry on the profession or business of a physician, surgeon, dentist, or midwife.—Colonel WELBY moved to strike out the former clause.—Mr. RITCHIE, President of the Board of Trade, the Minister in charge of the Bill, said he felt himself unable to resist the motion. In the Standing Committee he himself had recommended that this clause and Clause 3 should be omitted, but his recommendation was not adopted by the Committee. He did not propose to enter into the merits of either clause, though he admitted that there were evils which required to be dealt with. He did not desire to commit himself as to the particular mode by which the evils should be remedied. His main object in assenting to the motion was that in his opinion the clauses were not germane to the Bill. He knew of no instance in which in all the various Companies Acts there had been any attempt whatever made to say who should and who should not carry on companies. They had all been Acts dealing with machinery and the creation and formation and administration of companies.—Mr. BRYCE said that he took the same view of this matter as the President of the Board of Trade. He admitted that the two clauses dealt with important subjects. He thought these subjects ought to be dealt with, and he thought that they ought probably to be dealt with even more strongly than they were dealt with in the clauses now before the House. But they raised questions quite apart from the machinery with which this Bill was concerned, and he thought it better to leave the clauses out of the Bill.—Mr. GIBSON BOWLES thought the House ought to know how it came about that these clauses appeared in the Bill.—Mr. RITCHIE explained that they were inserted in the House of Lords, and he considered it only proper and courteous to the House of Lords that the Bill should be introduced in this House in the form in which it came from the House of Lords.—Sir WALTER FOSTER said that he hoped the House would not omit the clauses. They had received a great deal of consideration. They had been in the Bill in two successive sessions. They were introduced originally in a separate Bill and the Lord Chancellor himself deliberately put them into the Bill as the best method of regulating certain dangers and difficulties to which the public were exposed in the existing state of the law. The thing was done after consultation with the persons affected. Not in the interest of any class, but in the interest of the public generally, he appealed to the Government to retain the clauses and not to yield to the clamour of a particular class. He felt that if they were omitted an opportunity would be lost of protecting the public against many forms of illegal practice in pharmacy, medicine, and dentistry. He did not think that there should be a panic because of the opposition of certain trading interests affected by the clauses.—Sir JAMES HASLETT spoke in support of the omission of the clauses.—Mr. LAWSON WALTON said that there was no question of clamour or of opposition from a particular class. It was the duty of this House to pass legislation which could be easily referred to and which would be free from confusion, and he submitted that if these clauses were retained they would cause confusion and make the statute difficult to refer to. These clauses were, in his opinion, entirely out of place in this Bill, and he hoped that the House would strike them out.—Colonel LONG argued that the President of the Board of Trade had given no sufficient reason for saying that the clauses were not germane to the Bill. Surely the object of the measure was to put down abuses in connexion with companies. Certain abuses were known to exist in connexion with medical, dental, and pharmacy practice and the Lord Chancellor had thought fit, after considering the evidence, to insert these clauses.—Sir J. BATTY TUKE said that he regretted that Clause 3 was to be dropped, as its action would be to put a stop to practices which served to paralyse the action of the Medical Acts in certain important particulars. Under the law now existing persons in no way connected with the medical profession were able to form companies the object of which was to act as physicians, surgeons, and dentists. Over such companies the General Medical Council could exercise no jurisdiction, and one of the main objects of the Medical Acts was inoperative. The public were the sufferers, as it was rendered impossible to distinguish between qualified and unqualified practitioners. He recognised that the clause was not germane to the general tenor of the Bill, but he felt so strongly on the subject that he would take an early opportunity next session of introducing a Bill dealing with the subject.—The motion for the omission of Clause 2 was then put to the House and agreed to without a division.—Mr. MADDISON moved to omit Clause 3.—This motion was also agreed to without a division.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.

Hernia; its Etiology, Symptoms, and Treatment. By W. McAdam Eccles, M.S. Lond., F.R.C.S. Eng. 1900. Price 7*s.* 6*d.* net.

Electricity in Gynæcology. By R. J. Cowen, L.R.C.S., L.R.C.P. Irel. 1900. Price 3*s.* 6*d.* net.

BAILLIÈRE, J. B. ET FILS, Paris.

Traité de Chirurgie Clinique et Opératoire. Par A. Le Dentu et P. Delbet. Tome neuvième. 1900.

BAUERMEISTER, F., Glasgow.

Ueber Entartung. Von P. J. Möbius. 1900. Price 1*s.* 3*d.*

Functionelle und Organische Nerven-Krankheiten. Von Professor Dr. H. Obersteiner. 1900. Price 1*s.* 3*d.*

Die Aetiologie der geburtshilflichen Dammverletzung und der Dammschutz. Von Dr. M. Krantz. 1900. Price 3*s.*

Die anorganischen Salze im Menschlichen Organismus. Von Dr. R. Brasch. Erste abteilung. 1900. Price 2*s.* 6*d.*

Schadel und Auge. Von Dr. F. Danziger. 1900. Price 3*s.*

Verhandlungen der sechzehnten Versammlung der Gesellschaft für Kinderheilkunde in München, 1899. Von Dr. R. Pfeiffer. 1900. Price 8*s.*

Die operative Beseitigung der durchsichtigen Linse. Von Professor Dr. E. Pflüger. 1900. Price 7*s.* 9*d.*

Der Pemphigus und die Essentielle Schrumpfung der Bindehaut des Auges. Von Dr. E. Franke. 1900. Price 3*s.* 9*d.*

Die Therapeutischen Leistungen des Jahres 1899. Von Dr. A. Pollatschek. XI. Jahrgang. 1900. Price 8*s.*

CASSELL AND COMPANY, London.

Tropical Diseases: a Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. Aberd. Illustrated. Revised edition. 1900. Price 10*s.* 6*d.*

CHURCHILL, J. & A., Great Marlborough-street, London.

Rheumatism, Rheumatoid Arthritis, and Subcutaneous Nodules. By C. O. Hawthorne, M.D., M.R.C.P. 1900. Price 2*s.* 6*d.*

CLARENDON PRESS, Oxford.

The Structure and Functions of Bacteria. By A. Fischer. Translated into English by A. Coppen Jones. 1900.

CLIVE, W. B. (University Tutorial Press), London.

The Organised Science Series. First Stage Botany, as Illustrated by Flowering Plants. By A. J. Ewart, D.Sc., Ph.D., F.L.S. Price 2*s.*

FLOOD AND SON, The Borough Works, Lowestoft.

Reduction of Meteorological Observations, made at Lowestoft from 1879 to 1898. By S. Henry Miller, F.R.M. Society. 1900. Price 3*s.* 6*d.*

GRIFFIN, C., AND CO., Exeter-street, Strand, London.

Year-book of the Scientific and Learned Societies of Great Britain and Ireland. Compiled from Official Sources. Seventeenth annual issue. 1900. Price 7*s.* 6*d.*

Flesh Foods: a Practical Handbook. By C. Ainsworth Mitchell, B.A. Oxon., F.I.C., F.C.S. Illustrated. 1900. Price 10*s.* 6*d.*

LEWIS, H. K., Gower-street, London.

Medical Electricity: a Practical Handbook. By H. L. Jones, M.A., M.D. Being the Third Edition of "Medical Electricity," by W. E. Steavenson, M.D., and H. L. Jones, M.D. Illustrated. 1900. Price 10*s.* 6*d.*

LUCAS GRÄFE AND SILLEM, Hamburg.

Mikrophotographischer Atlas zum Studium der Pathologischen Mykologie des Menschen. Von Dr. Eugen Fraenkel. Lieferung 3. Bacillus der Beulenpest. 1900.

MACCRELLISH AND QUIGLEY, Trenton, New Jersey.

Twenty-third Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1899. 1900.

MALOINE, A., Paris.

Guide Médical Parisien Publie par "L'Indépendance Médicale." 1900.

MASSON ET CIE, Paris.

Leçons sur les Maladies du Sang. Par G. Hayem. 1900.

Le Vade Mecum du Médecin Expert. Par A. Lacassagne. Deuxième édition. 1900.

PENTLAND, Y. J., Edinburgh and London.

The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Edin. New series. Vol. VII. 1900.

PUBLISHED ON THE PHŒBE A. HEARST FOUNDATION, Philadelphia.

University of Pennsylvania: Contributions from the William Pepper Laboratory of Clinical Medicine. 1900.

REBMAN AND CO., Shaftesbury-avenue, London.

A Treatise on Appendicitis. By John B. Deaver, M.D. Second edition. Illustrated. 1900.

Surgical Anatomy: a Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By J. B. Deaver, M.D. In three vols. Illustrated. Vol. II. 1890. Price 5 guineas net for the complete work of three vols. (not sold separately). Vol. III. ready shortly.

SMITH, ELDER, AND CO., Waterloo-place, London.

Dictionary of National Biography. Edited by S. Lee. Vol. LXIII. Wordsworth—Zuglestein. With Indexes to Vols. I. to XIV. 1900. Price 15*s.* net.

STEINHEIL, G., Paris.

Chirurgie du Rein et de l'Uretére (Indications: Manuel Opératoire). Par V. Rochet. 1900.

SPOTTISWOODE AND CO., 54, Gracechurch-street, London.
Minutes of the General Medical Council—Jan. 1st, 1900, to May 31st, 1900. Vol. XXXVII. 1900.

TROW DIRECTORY PRINTING AND BOOKBINDING COMPANY, New York.
Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. IV. January, 1900. Edited by A. J. McCosh, M.D., and W. G. Thompson, M.D. 1900.

VOGEL, F. C. W., Leipzig.
Encyklopädie der Haut und Geschlechts-Krankheiten. Von Professor Dr. E. Lesser. 1900.

VOLTA BUREAU, Washington, U.S.A.
Helen Keller Souvenir, commemorating the Harvard Final Examination for Admission to Radcliffe College, June 29th–30th, 1899.

WRIGHT, J., AND CO., Bristol.
Operative and Practical Surgery. By T. Carwardine, M.S. Lond. F.R.C.S. Illustrated. 1900. Price 10s. 6d. net.

Montrose Royal Asylums for the Insane. 1781–1900 (House committee, Sunnyside Asylum, Montrose, 1900).—**Magazines, &c., for August: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review, North American Review, and Cornhill Magazine.**

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ANDREW, B. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Long Crendon Sanitary District of the Thame Union, vice M. H. Humphreys, resigned.

BULLMORE, W. K., M.D. St. And., M.R.C.S., has been re-appointed Medical Officer of Health by the Falmouth Town Council.

BUSTEED, J. H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Ellesmere and Welshampton Sanitary Districts and for the Workhouse of the Ellesmere Union, vice J. W. Roe, resigned.

CHADBORN, C. N., L.R.C.P. Lond, M.R.C.S., has been appointed House Surgeon to the Sussex County Hospital, Brighton.

COSTINE, W. C., M.R.C.S., has been appointed Public Vaccinator for the Kirkdale Division of the West Derby Union.

DAVIS, J. H, M.B, B.Ch. Irel., has been appointed Assistant Medical Officer at the Brownlow Hill Workhouse, Parish of Liverpool, vice E. Smith.

DAVIES, H. H., M.R.C.S., has been appointed Medical Officer of Health for the Uwchaled Sanitary District, vice R. T. Davies.

DENYSSEN, P. J., L.R.C.P. Lond, M.R.C.S., has been appointed Medical Officer of Health for the Halesworth Urban District.

EMMETT, RICHARD, L.R.C.P. Lond., M.R.C.S, has been appointed Certifying Surgeon under the Factory Acts for the County Borough of Portsmouth and the Civil Parish of Cosham in Fareham Rural District.

ENSOR, HENRY COLLEN, M.R.C.S., has been appointed Ophthalmic Surgeon to the Cardiff Provident Dispensary and to the Cardiff Infirmary.

FEY, W. L., M.B., B.Ch. Oxon., has been appointed Medical Officer for the Catterick and Scorton Sanitary Districts of the Richmond Union, Yorks, vice H. M. Eyres, resigned.

FORSTER, LUCINDA, M.B., B.S. Lond., has been appointed House Surgeon to the Bristol Royal Hospital for Sick Children and Women, St. Michael's Hill.

GOTT, J., L.S.A., has been appointed Medical Officer for the Ringwood Union and Certifying Surgeon under the Factory Acts for the Ringwood Rural District in the county of Southampton.

HALL, G. C., M.R.C.S., has been appointed Medical Officer for the Ottmoor Sanitary District of the Headington Union, vice C. Black, resigned.

HANLY, T. F., L.R.C.P, L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Gillingham District of Dorset.

HERBERT, A. W. C., L.S.A., has been appointed Certifying Surgeon under the Factory Acts for the Southwold District, Suffolk.

HIRSCH, CHARLES J. W., M.R.C.S., L.R.C.P. Lond, L.S.A., has been appointed Public Vaccinator for Woolwich.

LESLIE, L. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Avesham Union, vice H. E. Haynes, resigned.

MARTIN, J. P., L.R.C.P. Irel., L.R.C.S., has been appointed Assistant Medical Officer at the Brownlow Hill Workhouse, Parish of Liverpool, vice W. B. Bennett.

MCCALL, EVA, M.B., C.M. Glasg., has been appointed Resident Medical Officer of the Union Infirmary, Salford.

NEECH, J. T., L.R.C.P. Edin., L.F.P.S. Glasg., D.P.H. Vict., has been appointed Medical Officer of Health for the Borough of Halifax.

NOLAN, H. F., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Third Sanitary District of the West Ashford Union, vice J. H. Mitcheson, deceased.

NOWELL, WALTER SALMON, M.A. Oxon., L.R.C.P., M.R.C.S., L.D.S. Eng., has been appointed Assistant Dental Surgeon to the Middlesex Hospital.

PENDLEBURY, H. S., M.B., B.C. Camb., F.R.C.S. Eng., has been appointed Assistant Surgeon to St. George's Hospital, Hyde Park Corner, S.W.

PRICE, D., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer for the Saddleworth Union.

RIMELL, A. T., L.R.C.P. Edin., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Long Sutton District of Lincolnshire.

ROUSE, E. R., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer for the Ticehurst Union, vice W. H. Hall, resigned.

SCATCHARD, J. P., M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Tadcaster Sanitary District and the Workhouse of the Tadcaster Union, vice T. B. Ireland, resigned, and Certifying Surgeon under the Factory Acts for the Tadcaster District of the West Riding of Yorkshire.

SHEILD, A. M., M.B., B.C. Camb., F.R.C.S. Eng., has been appointed Surgeon to St. George's Hospital, Hyde Park Corner, S.W., vice T. Warrington Haward.

SMITH, E. J., L.R.C.P. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Walton-on-Naze District of Essex.

STOKES, C. E., M.D. Dubl., B.Ch., has been appointed Medical Officer for the Brampford Speke Sanitary District of the St. Thomas Union, Exeter, vice T. Smith, resigned.

SWAINSTON, ELIOT, M.B., B.S. Durh., has been appointed House Surgeon to the North-Eastern Hospital for Children, Hackney-road, Shoreditch, N.E.

SYMONS, W. H., M.D. Brux., L.R.C.P. Lond., M.R.C.S., D.P.H. Oxon., has been re-appointed Medical Officer of Health by the Bath City Council.

WHITE, P. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bugbrooke Sanitary Division of the Northampton Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum, with an allowance of £30 yearly for cab-hire, with furnished rooms, fire, lights, and attendance.

BIRMINGHAM WORKHOUSE.—Medical Officer for three weeks from the middle of August. Board, apartments, laundry, and attendance provided. Apply, stating terms, to the Clerk to the Guardians, Birmingham.

BOSCOMBE HOSPITAL, Bournemouth.—House Surgeon. Salary £60 per annum, with board, lodging, and washing. No beer or spirits.

BRECON INFIRMARY, No. 6, Bulwark, Brecon, South Wales.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, and gas.

BRISTOL EYE HOSPITAL.—Locum Tenens for the House Surgeon for two months. Salary 2½ guineas a week, without residence.

BRISTOL ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c.

CITY OF SHEFFIELD.—Assistant Resident Medical Officer for the two City Hospitals. Salary £120 per annum, with board, lodging, and attendance. Apply to the Town Clerk, Town-hall, Sheffield.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising £10 annually to £150, with board, furnished apartments, &c.

CORPORATION OF BIRMINGHAM.—CITY HOSPITAL, Lodge-road.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon for one year. Salary £70 per annum, with board, lodging, and washing. Also Assistant House Surgeon for seven months from Oct. 1st. Salary at the rate of £40 per annum, with board, lodging, and washing.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £100, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Junior Assistant Medical Officer. Salary £140, rising £10 annually to £160, with board, laundry, and attendance.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon, unmarried. Salary £60, with board, lodging, and washing.

HAMPSTEAD HOSPITAL, Parliament-hill, N.W.—Resident Medical Officer for six months. Salary at the rate of £120 per annum, with rooms, coals, and gas.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, 74, King-street, South Shields.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

LONDONDERRY COUNTY BOROUGH.—Medical Officer to act, as Medical Superintendent Officer of Health and Medical Attendant at Foyle Hill Infectious Diseases Hospital. Salary £350 per annum. Apply to the Executive Sanitary Officer's Office, Guildhall, Londonderry.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence at the institution.

MANCHESTER EAR HOSPITAL.—Clinical Clerkship for a Senior Student for six months. Honorarium 10 guineas.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer to the Out-patient Department, Hardman-street, Manchester. Honorarium £40 per annum.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth, Newcastle-upon-Tyne.—Assistant Medical Officer, unmarried. Salary £130 a year, with furnished apartments, board, &c., rising £10 annually to £150.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with furnished apartments, board, attendance, and washing.

NORTH CAMBS. HOSPITAL, Wisbech.—Resident House Surgeon. Salary £130 per annum, with furnished house.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—Resident Medical Officer for 12 months. Salary £120 per annum, with board, residence, and washing. Apply to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—Junior House Surgeon for one year. Salary £75, with board, residence, and washing.

PARISH OF ROUSAY AND EGILSHAY, Orkney.—Resident Medical Officer. Salary £51 sterling per annum. Apply to Inspector of Poor, Rousay, Orkney.

ROYAL HALIFAX INFIRMARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with residence, board, and washing. Also Second House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing. Also Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

ROYAL INFIRMARY, Sheffield.—Junior Assistant House Surgeon. Salary £70 per annum, with board, lodging, and washing.

RUBERY-HILL ASYLUM, Barnt Green, Worcestershire.—Junior Assistant Medical Officer, unmarried. Apply to Medical Superintendent.

ST. BARTHOLOMEW'S HOSPITAL, Rochester.—Assistant House Surgeon. Salary £100 per annum, with board, washing, firing, and lights.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £50 per annum, with board, residence, and washing.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

THE CHIEF INSPECTOR OF FACTORIES gives notice of a vacancy of Certifying Surgeon under the Factory Acts at Syston, in the county of Leicester.

TOTTENHAM HOSPITAL, N.—House Surgeon for six or 12 months. An honorarium at the rate of £20 per annum given, with board, residence, and laundry.

VICTORIA HOSPITAL FOR CONSUMPTION, Craigleith, Edinburgh.—Resident Physician. Residence and board and nominal honorarium in lieu of conveyance. Also non-resident Clinical Assistant. Honorarium at the rate of £60 per annum. Both appointments for six months. Apply to the Hon. Secs., 1, North Charlotte-street, Edinburgh.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75, with board, residence, &c.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer, unmarried. Salary £130, rising £10 a year to £160, with board, residence, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Assistant House Physician for six months. Honorarium at the rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BRADLEY.—On July 18th, at Greville House, Raynes-park, Wimbledon, S.W., the wife of James Edmund Campbell Bradley, M.B., B.C. Cantab., of a daughter.

CUNNINGHAM.—On June 25th, at The Mount, Glossop-road, Sheffield, the wife of R. Wiseman Cunningham, M.B., C.M., of a son.

PATON.—On July 17th, at Lynedoch-place, Edinburgh, the wife of D. Noel Paton, M.D., of a son.

PRATT.—On July 19th, at Heaton-road, Newcastle-on-Tyne, the wife of E. F. Pratt, M.B., of a son.

MARRIAGE.

PAYNE—DERBY.—On July 19th, at the Wesleyan Church, Streatham, Joseph Lewin Payne, L.R.C.P., M.R.C.S., L.D.S. Eng., of Devonshire-street, Portland-place, to May Castine Derry, youngest daughter of Charles J. D. Derry, of The Woodlands, Tooting-common.

DEATHS.

BENNETT.—On July 19th, at Maidenhead, Berks, William Charles Storer Bennett, F.R.C.S., of George-street, Hanover-square, W., aged 48 years.

CAMERON.—On July 18th, at Chipping Campden, Gloucestershire, Archibald Henry Foley Cameron, M.R.C.S., L.R.C.P. aged 71 years.

CROKER.—On July 18th, at Claremont, Seaford, Sussex, Surgeon-Major Arthur Croker, late Army Medical Department, in his 69th year.

PRESCOTT.—At Great Queen-street, W.C., Thomas Prescott, M.R.C.S., L.R.C.P., aged 52 years.

SHEWEN.—On July 18th, at Lindenhurst, Sevenoaks, Kent, Alfred Shewen, M.D. Lond., of Sydney, N.S. Wales, Senior Consulting Hon. Physician to Prince Alfred's Hospital of that city, in his 57th year.

WRIGHT.—On July 20th, at Vanbrugh-park, Blackheath, Brigade-Surgeon Thomas Wright, late Army Medical Department, aged 88 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PAY OF DISTRICT SURGEONS IN CAPE COLONY.

WE extract the following from the *Cape Gazette*:—

GOVERNMENT NOTICE.—No. 319, 1900.

Colonial Secretary's Office,
Cape Town, 8th May, 1900.

VACANT DISTRICT SURGEONCIES.

INTENDING Candidates are invited to make early application for the following District Surgeoncies, now vacant, viz.:—

1. Hay (Additional), resident at Postmasburg. Allowance £40 per annum, and private practice.

2. Fraserburg (Additional), resident at Williston, vacant by the resignation of Dr. ——. Allowance £50 per annum, and private practice.

3. Namaqualand (Additional), resident at Garies. Allowance £100 per annum, and private practice.

4. Tabankulu, vacant by transfer of Dr. ——. Allowance £200 per annum, inclusive of forage allowance, £50 per annum, and private practice.

5. Flagstaff, vacant by resignation of Dr. ——. Allowance £200 per annum, including forage allowance of £50, and private practice.

6. Mount Fletcher, vacant by resignation of Dr. ——. Allowance £200 per annum, inclusive of forage allowance of £50 per annum, and private practice.

NOEL JANISCH,
Under Colonial Secretary.

Medical men will be interested to see the value that is set upon them. The remuneration offered by the Government of Cape Colony is hardly likely, we think, to tempt many of our readers to a colonial life.

THE INTERRUPTED ELECTRICAL CURRENT IN CHRONIC COMPLETE DEAFNESS.

To the Editors of THE LANCET.

SIRS,—I am treating a case of chronic and extreme deafness (the cause of which is unknown to me) by the application of the interrupted electrical current. After about a week's treatment the hearing has, I believe, slightly improved and the patient tells me that he has to day heard the brewery steam gong for the first time for years. Could you tell me if this treatment has been found beneficial in other cases of deafness? I am, SIRS, yours faithfully,

DIGBY F. B. COTES, M.R.C.S. Eng.

Burton-on-Trent, July 21st, 1900.

*** It is obvious that in many cases of chronic complete deafness no electrical current could restore or improve hearing. In others some good might follow the treatment. Our correspondent does not tell us how, when, or where the electricity is applied. The cause of the condition is the important point.—ED. L.

A POINT UNDER THE CORONERS ACT.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would refer me to any authority as to the law on the following case. A man was brought dead to my hospital the other day and there were no signs as to how he met his death. The coroner ordered me to make a post-mortem examination, which I did, and attended the inquest afterwards and gave evidence. I claimed the usual fee, £2 2s., for the work, when the coroner asked me to show him the authority on which I based my claim. House surgeons are not entitled to fees for such work when the patient has died *in* the hospital, but if brought dead to the hospital and an inquest is held, or if a post-mortem examination and an inquest are held and the house surgeon is summoned to attend, I believe the house surgeon receives the usual remuneration. Such has been my previous experience.—I am, Sirs, yours faithfully,

July 16th, 1900. R.M.O.

*** The authority governing this question is contained in the 22nd section of the Coroners Act of 1887 (50 & 51 Vict., c. 71) which runs as follows:—"§ 22. A legally qualified medical practitioner who has attended at a coroner's inquest in obedience to a summons of the coroner under this Act shall be entitled to receive such remuneration as follows—that is to say: (*a*) for attending to give evidence at any inquest whereat no post-mortem has been made by such practitioner, one guinea; and (*b*) for making a post-mortem examination of the body of the deceased, with or without an analysis of the contents of the stomach or intestines, and for attending to give evidence thereon, two guineas. Provided that (1) any fee or remuneration shall not be paid to a medical practitioner for a post-mortem examination instituted without the previous direction of the coroner; (2) where any inquest is held on the body of a person who has died in a county or other lunatic asylum, or in a public hospital, infirmary, or other medical institution or in a building or place belonging thereto or used for the reception

of the patients thereof, whether the same be supported by endowments or by voluntary subscriptions, the medical officer whose duty it may have been to attend the deceased person as medical officer of such institution as aforesaid, shall not be entitled to such fee or remuneration." It seems perfectly clear from the above that the coroner was wrong in refusing the fee asked for, unless he believed that the deceased died in the hospital. Perhaps if the section were laid before him he would consider it now. Otherwise the precise remedy of the medical man is not very clear, but it seems to be by suing the coroner in the county-court. This is not a satisfactory proceeding where the amount is small owing to the small amount of costs recoverable, but the plaintiff by clearly stating the facts and citing the section given and the twenty-sixth section, which orders the coroner to pay costs, might be able to make good his case without legal assistance.—ED. L.

"UPWARD *versus* DOWNWARD VENTILATION."

THIS is the title of a little pamphlet which has reached us from Messrs. Robert Boyle and Son of 64, Holborn Viaduct. It contains extracts from the report of Professor Woodbridge on the ventilation of the Capitol, Washington, U.S.A. What Messrs. Robert Boyle and Son maintain is that when natural ventilation is properly and scientifically applied it invariably proves more successful than mechanical or other forms of artificial ventilation and it has the advantages that it cannot get out of order or break down, and costs but little to apply and maintain. In addition, the book contains excerpts from well-known authorities who condemn the downward ventilation of the Plenum system.

"THE DUTIES OF A PUBLIC VACCINATOR."

To the Editors of THE LANCET.

SIRS,—I am much obliged to you for your answer to my letter in THE LANCET of July 14th (p. 148), *re* vaccination prosecutions. Thinking the result of prosecution in this district may be of interest, I send a few lines to let you know. Three cases came before the magistrates, and in each case a fine of 1*s.* and costs was inflicted, the costs to include a fee of 10*s.* 6*d.* per case to the medical men subpœnaed to give evidence. I am not certain, but I think in cases prosecuted in the future that the vaccination officer's evidence will be sufficient to convict, without the public vaccinator appearing in court.

I am, Sirs, yours faithfully,

July 17th, 1900. X.

A PATENT AUTOMATIC BEVERAGE MACHINE.

WE learn that it is proposed to introduce shortly for out-door public use an automatic machine for the supply of non-alcoholic beverages—soda-water, lemonade, ginger-beer, &c. The principle of the penny-in-the-slot will be employed. The act of dropping the coin releases to each customer a collapsible cup which when placed in position under a delivery tube receives on turning a handle a cupful of beverage either effervescent or still. We are glad to notice that every precaution is promised in regard to the cleanliness and purity of the drinks supplied and of the drinking vessels. We fear, however, that certain difficulties will be encountered in thus attempting to place an automatic supply of beverages before the public. Imagine, for example, the machine being bombarded by the sun's rays in weather of the kind that we are now experiencing. The drinks would be somewhere between hot and cold unless the machines were jacketed with an ice chamber. Then special care will have to be taken to avoid metallic impurity. The idea is good in some respects. Some guarantee could be afforded of the purity of the beverages and the recourse to a stuffy or otherwise unpleasant bar or counter could be avoided. The particulars of the invention may be had from the Patent Automatic Beverage Machine Company, of 60, Chancery-lane, W.C.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—Mr. Harris's letter under the above heading in THE LANCET of July 14th, page 147, makes extremely pretty reading, but as an answer to a question, asking for some figures whereby one can base opinion as to the efficiency claimed by its supporters of the Krohne inhaler, it is an ingenious way of "begging the question." It is all very well to quote "If they hear not Moses and the Prophets," but is everybody as satisfied as Mr. Harris that the Krohne inhaler is the present-day representative of the ancient Hebrew law-giver and that its supporters are "the Prophets"? The Krohne Inhaler 1900 can only, in the natural order of events, be on its trial, as six months use of a new instrument by a comparatively small number of observers cannot be considered conclusive. I cannot anywhere in any of the journals or medical papers find any statistics whatever relating to the Krohne inhaler, so that one is absolutely in the dark as to how often it has been used; but I do find recorded in THE LANCET of Nov. 4th, 1899, page 1227, a death with the Krohne and Sesemann inhaler, so it would appear both from that and also from Mr. Harris's carefully guarded statement "that (the Krohne inhaler of 1900) in the hands of any ordinary practitioner with common sense could *hardly ever result* in death," that it is possible to have a fatality even when one has given attentive hearing to "Moses and the Prophets." In THE LANCET of August 19th, 1899, page 515, is an account of a death from chloroform anæsthesia with the statement that at the Children's Hospital, Birmingham, since the opening up to that date, 14,500 cases of anæsthesia had occurred and that only one death had taken place in that number; again, at the Royal Southern Hospital, Liverpool, where chloroform by the "rule-of-thumb" method is almost exclusively used, there has never been a death recorded since the opening—I cannot at the moment tell how many years that is, but I know it is considerably over 20, and the average number of operations being about 30 per week, that will give another big list of figures to the credit side of the "rule-of-thumb" method. Even the greatest advocate of the Krohne inhaler, Dr. Edmunds, does not pretend to claim its absolute infallibility, as anyone may read in his letter in THE LANCET of Oct 28th, 1899, p. 1205. He there plainly states that it is not only the inhaler but the man using it which has everything to do with the result attained. Another fact I wish to insist upon is, what does it matter about registering the exact amount of chloroform used to a drop? Everyone must realise that no two patients require the same amount of the drug to ensure an equal degree of anæsthesia and that the rule of averages is an absolutely fatal one to go by; what would kill outright one patient will not get another one under at all. Another objection to the Krohne inhaler is the time taken to get a patient under, and time is of importance where from 10 to 14 operations are to be performed in an afternoon; but, still, one would set aside that if it were conclusively proved that the new method was an absolutely safe one, which I maintain has not been done yet. Give us some facts and figures to go on; do not quote single cases where a man has taken chloroform in a Krohne inhaler and went off without "any coughing, struggling, or any unpleasant effects whatever"—that is no use at all. One has seen dozens of patients put under by the "rule-of-thumb" method with exactly the same state of affairs. Passing over the rather childish parallel of the weighing or guessing out of strychnine, I shall welcome any reply from Mr. Harris which contains a list of a sufficiently large number of cases of anæsthesia with the Krohne inhaler, also at the same time a record of the casualties.

I am, Sirs, yours faithfully,

Liverpool, July 16th, 1900. FRANK E. MARSHALL, M.B. Vict.

A SURGEON'S FEES.

THE hearing of the case of Collier *v.* Epstein was concluded on July 18th in the Queen's Bench Division before Mr. Justice Kennedy and a special jury. The action was brought by Mr. M. P. M. Collier, of Harley-street, against the widow of Mr. Ludwig Epstein, of Twickenham, to recover £152 5*s.*, balance of fees amounting to 180 guineas alleged to be due in respect of certain surgical operations and subsequent attendance upon the defendant's husband. The jury came to the conclusion that 120 guineas, less the 35 guineas already paid, would be a fair and reasonable remuneration for the operation and attendance, and gave a verdict accordingly. Judgment was therefore entered for the plaintiff for £89 5*s.*

"WORD-BLINDNESS."

To the Editors of THE LANCET.

SIRS,—I am much obliged for Dr. J. Edmunds's instructive letter and references (THE LANCET, June 16th, p. 1767) chiefly as to paralytic aphasia, but I should like to repeat my question as to those typically pure and uncomplicated cases mentioned (pages 1506–8), where not one of "the various channels of receptivity was affected" save the recognition of the small naked outlines of print. Where there was no difficulty in naming objects from the small pictures of them in a spelling-book, if the letters were first introduced as distinctively coloured objects which could be grasped, involving the cheiro-kinæsthetic and muscular memories (from the weight) and the tactile memory (from variety of textures and materials), would not the ordinary printed letters be recognised as pictures of these?

I am, Sirs, yours faithfully,

Upper Bedford-place, W.C., July 11th, 1900. C. G. S. MENTEATH.

P.S.—If the letters were not recognised as the same as the coloured models then it would be helpful to the patient to draw and colour the letters (J. Wyllie, 1894, p. 350). If there is anything in coloured audition or pseudo-chromæsthesia (*s. v.* Tuke, Dictionary of Psychological Medicine), and normal persons have practically used it (Popular Science Monthly, July, 1891, p. 372), also the blind who have once seen (Memorabilien, Heilbronn, 1882, ii., 524–36), and the deficiency of one memory is frequently compensated by the increased memory of of another sense, especially of hearing, the colours and shades of colours should give great assistance. The letters might be named after their colours: blue = *b*; pale blue = *p*; and crimson, cerise = *c*. Only 26 characters need be considered, as most of the capitals are the same as or resemble, the corresponding small letters (it would be almost possible to read without the knowledge by heart of the remainder). Moreover, as the vowels in one case were remembered while the others were forgotten they might be left plain; semi-vowels and the aspirate might be white. But it is in syllable- or word-blindness that the colours would be most useful, as, since juxtaposed colours sometimes modify, run into each other, "kill," or, on the other hand, set each other off, the patterns or colour complexes of the syllables might obtain some manner of registration in the brain. Thus harmonies or colours would be easily recognised, and combined consonants would be remembered as one colour where they mingled together. The vowels not being coloured the distinctive outlines of the syllables would come out, although it is said that when words are coloured they usually acquire their colour from the vowels which seem to be

the most frequently coloured (Memorabilien). If, however, it were still difficult to remember what colours to chalk the printed letters, then the three primary colours and their shade-varieties respectively would have to be assigned to three principal shapes of letters—the small ones as *n, m, r, c, s, z*: those above the line *b, d, t, f, k, l*; and those below *p, q, g, j*—and still be named after their colours.

A CORRESPONDENT writes:—"Can any reader of THE LANCET recommend a good place to which to send a young woman for instruction in gymnastics of the chest? She wants to learn to expand her chest and has weak erectores spinæ. Somewhere in central or western London would be convenient."

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 26th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
July 20	29·96	E.	...	126	95	68	68	73	Cloudy
,, 21	30·12	S.W.	...	114	79	66	66	70	Cloudy
,, 22	30·12	W.	...	123	84	65	65	69	Cloudy
,, 23	30·10	N.	...	123	86	68	68	72	Cloudy
,, 24	30·05	S.W.	...	131	91	67	69	73	Hazy
,, 25	29·90	S.W.	...	135	95	68	70	75	Hazy
,, 26	30·00	N.W.	...	122	80	68	68	70	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M.), Cancer (2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Lonpon Throat (2 P.M. and 6 P.M.).

SATURDAY (4th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

BRITISH MEDICAL ASSOCIATION MEETING AT IPSWICH.

DURING the forthcoming meeting of the British Medical Association at Ipswich the representatives of THE LANCET can be consulted at the Great White Horse Hotel, Ipswich, with regard to our reports of papers and proceedings.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1900, which was completed with the issue of June 30th, and the Title-page to the Volume, were given in THE LANCET of July 7th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1900 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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